

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
28 February 2002 (28.02.2002)

PCT

(10) International Publication Number  
WO 02/17156 A1

(51) International Patent Classification<sup>7</sup>: G06F 17/60

(21) International Application Number: PCT/AU01/01069

(22) International Filing Date: 27 August 2001 (27.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PQ 9641 25 August 2000 (25.08.2000) AU  
PQ 9642 25 August 2000 (25.08.2000) AU  
PQ 9643 25 August 2000 (25.08.2000) AU

(71) Applicant (for all designated States except US): XERTS  
INTERNATIONAL LIMITED [—/—]; Cedar Trust  
Company limited, Corner House, 20 Parliament Street,  
Hamilton HM12 (BM).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SWIFT, David  
[NZ/AU]; 5 Kyrenia Court, Warrandyte, VIC 3113 (AU).  
BETTELS-BLUME, Patrick [AU/AU]; 3 Donnelly Close,

Sunbury, VIC 3429 (AU). DOYLE, Elissa [AU/AU];  
13/400 Victoria Parade, East Melbourne, VIC 3002 (AU).  
JOHNSON, David [AU/AU]; 6/478 Mitcham Road,  
Mitcham, VIC 3132 (AU).

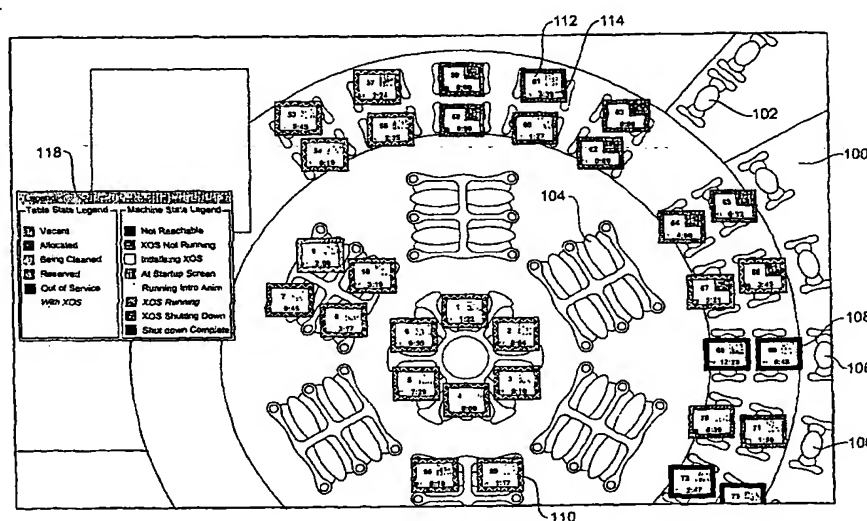
(74) Agent: LESICAR PERRIN; 49 Wright Street, Adelaide,  
S.A. 5000 (AU).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI,  
SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,  
ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,  
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,  
TG).

[Continued on next page]

(54) Title: AN INTERACTIVE ORDERING AND MANAGEMENT SYSTEM AND METHOD



(57) Abstract: An interactive order management system for use by staff, for example waiters, at an entertainment venue, characterized in that the system include host screen having means for recording, retrieving, displaying and transmitting information relating to guests at the venue; and one or more order manager screens associated with the host screen, each order manager having means for recording, retrieving, displaying and transmitting information relating to orders placed by guests; wherein the host screen serves to monitor the status of guests and locations in the venue and to control activities of the or each order manager so as to optimise allocation of resources in the venue. In a preferred embodiment the system also includes user screens in which customers can review menus and place orders. The system incorporates provision for customised orders to be created and placed.

WO 02/17156 A1

**WO 02/17156 A1**

---



**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## **AN INTERACTIVE ORDERING AND MANAGEMENT SYSTEM**

### **FIELD OF THE INVENTION**

The present invention relates an interactive ordering and management system and method that allows customers in a venue, such as a restaurant, to interactively order food and/or beverages and to view or play multimedia content such as games, and videos from their table. The system of the invention includes tools that enable the ordering process to be monitored and controlled by staff at the venue.

### **BACKGROUND OF THE INVENTION**

Although it is known for a restaurant to use a computerised ordering system, these systems are limited to use by waiters when they have taken an order from customers at a table. The waiters input the orders into the system to be subsequently processed by the kitchen and/or bar areas.

It is also known for a table to have an ordering system that allows a customer to place fixed orders that are directly transmitted to the kitchen. However these systems are not flexible in that they do not accommodate for different choices and/or changes in the menu, such as the addition of certain accompaniments, nor do they have a validation step to ensure that the orders placed by the customer are valid ones.

It is an object of the present invention to provide for an interactive ordering and/or entertainment system to be used by a customers and waiting staff at a venue.

The present application is one of a five co-pending applications describing an interactive ordering system and the development and management thereof, the system having application in environments such as a restaurants, hotels, casinos and so on. For a full description of the system, the reader is referred to these five co-pending applications by the same applicant that relate to different aspects of the system, namely:

“A video and video management system for navigation through a user interface system”. This aspect of the system enables the user to navigate through a hierarchical menu structure used in providing the user with selectable indicia.

“A user interactive system and method comprising profiles”. This aspect of the system provides users with a choice of indicia that may be in a form of graphical images relating to their language and/or customs, whilst remaining transparent to the rest of the operating system.

5 “An interactive ordering and management system and method”. This aspect of the system enables management of user orders and requests and provides information to the system operator.

10 “A user interface development system and method”. This aspect of the system relates to the development of the user interface by subsequent use by users seeking to submit orders and requests. In particular, this aspect provides the ability for relatively low skilled operators to develop and/or modify the visual aspect of a user interface.

“A user interface management system and method”. This aspect of the system relates to the management of the user interface development system thus providing relatively high skilled administrators with the ability to provide low skilled operators with the facilities to develop and/or modify the visual aspect of a user interface.

15 Thus the present invention relates specifically to an interactive ordering and management system and method. The contents of the four co-pending applications are intended to be incorporated within the present specification by reference thereto.

## SUMMARY OF THE INVENTION

20 In one aspect of the invention there is therefore provided an interactive order management system for use by staff at an entertainment venue, characterized in that the system includes:

- a host screen having means for recording, retrieving, displaying and transmitting information relating to guests at the venue; and
- the host screen having associated therewith one or more order manager screens, each order manager having means for recording, retrieving, displaying and transmitting information
- 25 relating to orders placed by guests; wherein
- said host screen serves to monitor the status of guests and locations in the venue and to control activities of the or each order manager so as to optimise allocation of resources in the venue.

Preferably, the system further includes a user screen for use by guests at the venue, the user screen having means for recording, retrieving, displaying and transmitting information relating to orders placed by guests at the venue.

5 Preferably, the information relating to guests at the venue is displayed at the host screen and the order manager screen in the form of a layout corresponding to the venue layout information associated with each guest being displayed at a location corresponding to the guest location in the venue.

10 Preferably, said information relating to orders placed by guests is displayed at the order manager screen in the form of a layout corresponding to the venue layout information associated with each guest being displayed at a location corresponding to the guest location in the venue.

15 In this form the invention incorporates a system whereby an entertainment venue is managed by interaction of the three roles, the host, the order manager and the customer. Information and data is able to be exchanged between the host and the order manager in a manner that promotes effective running of the venue.

Preferably, the host screen includes the ability to allocate a respective order manger to any guest location in the venue and wherein the host screen displays information identifying the respective order manager allocated to each location.

20 Preferably, the host screen and order manager screen include means for recording, retrieving, displaying and transmitting information relating to guest names, guest numbers and optionally other guest –specific information for each party of guests at any location within the venue.

Preferably, the host screen and order manager screen include means for recording, retrieving, displaying and transmitting information relating to guest arrival times.

25 Preferably, the host screen and order manager screen include means for displaying requests from users for assistance or for accounts to be presented.

Preferably, the host screen and order manager screen include means for allocating and displaying a dedicated location for each party of guests at any location within the venue.

Preferably, the host screen includes means for recording, retrieving, displaying and transmitting information relating to account payment methods each party of guests at any location within the venue.

5 In one embodiment of the invention each dedicated location corresponds to a table in a restaurant venue. In further embodiments of the invention each dedicated location corresponds to either a user interactive table in the restaurant or to a conventional restaurant table and that the host screen includes means for distinguishing an interactive table from a conventional table. Similarly, a dedicated location may corresponds to a hotel room or to a game playing position in a gaming venue.

10 Preferably, user screen provides to the users options in the form of menu wherein items appearing in the menu are each associated with a hierarchy of sub menus, in which menu items are arranged into categories if like products.

Preferably, the menu items appearing on the user screen are formed as a combination of navigation video viewable in discrete sections and graphic screen elements.

15 Preferably, the host screen includes means for allocating a respective profile to each group at a dedicated location in the restaurant, said profile determining the visual form of the menu at the user location.

20 Preferably, each menu item in any menu is associated with one or more screen profiles that describe the item, the screen profiles being formulated as a combination of video and screen graphic items, said screen item profiles being associated with group profiles such that the visual form of the menu items experienced by a respective group reflects the group characteristics as identified in the group profile.

Preferably, access to menu by users can be selectively disabled or and that the menu can be updated to reflect changing availability of items thereon.

25 Preferably, the user screen adapted to carry advertising indicia, wherein said advertising indicia are variable and change during operation of the user screen.

Preferably, the advertising indicia are prompted to change in response to changing user screens and that the advertising indicia relate to menu items under consideration by the user.

Preferably, the advertising indicia are prompted to change in response to changing user screens.

- 5 Preferably, customers select items for purchase from menus appearing on the user screen and can edit and verify any orders before transmitting the order.

Preferably, an order transmitted by the customer is able to be reviewed and verified by an order manager before being submitted for preparation.

- 10 Preferably, the order manager screen includes information relating to orders transmitted to the order manager and not yet submitted for preparation.

Preferably, the order manager screen includes information relating to a measure of the time elapsed since all orders from locations under their control order were transmitted to them.

- 15 Preferably, the order manager screen includes information relating to a measure of the time elapsed since all orders from locations under their control order were transmitted by them for preparation.

Preferably, a measure of elapsed time is accompanied by a colour representation.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

- 20 The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate several implementations of the invention and, together with the description, serve to explain the advantages and principles of the invention. In the drawings,

Figure 1 illustrates a typical partial floor plan of a restaurant incorporating a restaurant management system in accordance with the invention as shown on a host podium or a maitre d'hotel area, highlighting interactive tables;

- Figure 2 illustrates in detail information a portion of the floor plan available at the host podium relating to interactive tables in the restaurant;
- Figure 3 depicts a typical table details window for an allocated interactive table;
- Figure 4 depicts typical advanced table functions window available to the host podium;
- Figure 5 illustrates a typical table details window for a conventional table as it is being allocated;
- Figure 6 illustrates a typical table details window when entering the number of guests for a conventional table;
- Figure 7 illustrates a typical table details window when entering the guests name for a conventional table;
- Figure 8 illustrates a typical table details window when entering any comments for a conventional table;
- Figure 9 illustrates a typical table details window for an interactive table as it is being allocated a profile;
- Figure 10 illustrates a typical table details window when the screen-cleaning mode is selected;
- Figure 11 depicts a typical user screen shown on the screen at the beginning of the session for an interactive table;
- Figure 12 illustrates the Home page or the first tier menu that the customer uses to navigate through the system;
- Figure 13 is an outline of the screen layout of user screen, indicating the different active areas of the screen;



- Figure 14 illustrates one example of a second tier menu screen, in this case a Drinks menu;
- Figure 15 illustrates the process of item selection from the drinks menu when a smoothie has been selected, the smoothie having three different condiments;
- Figure 16 illustrates the second tier menu screen for the Eat menu;
- Figure 17 shows a typical order that has been completed by the customer in a position to be edited and transmitted to a waiter;
- Figure 18 is a typical screen illustrating the Options menu of the system;
- Figure 19 illustrates a Shopping screen, being a second tier screen, and indicating further activity options;
- Figure 20 illustrates a TV screen, being a second tier screen and indicating three options for selection;
- Figure 21 illustrates a typical partial floor plan of a restaurant incorporating a restaurant management system as shown on at an Order Manager station, highlighting interactive tables
- Figure 22 illustrates the Order manager table for an interactive table in this case table 3
- Figure 23 illustrates the visual warning screen details associated with the table layout screen, which provide the waiter with a warning as to how long ago an order has been transmitted;
- Figure 24 illustrates individual orders within the Order manager table, in particular the difference between uncleared and cleared orders;
- Figure 25 illustrates the Order manager table when the interactive table is to be cleaned

- Figure 26 illustrates using the Order manager table to change the number of guests seated at the interactive table;
- Figure 27 illustrates using the Order manager table to edit the comments associated with an interactive table;
- 5      Figure 28      Depicts a user screen of a main menu available to guests in a hotel in accordance with a second embodiment of the invention;
- Figure 29      illustrates a second tier menu associated with the first tier menus illustrated in Figure 28;
- 10      Figure 30      shows a user screen used for booking confirmation for the hotel system illustrated in figures 28 and 29; and
- Figure 31      illustrates a screen as seen by a host or order manager in the hotel system used for editing customer details.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

- 15      The following detailed description of the invention refers to the accompanying drawings. Although the description includes exemplary embodiments, other embodiments are possible, and changes may be made to the embodiments described without departing from the spirit and scope of the invention. Wherever possible, the same reference numbers will be used throughout the drawings and the following description to refer to the same and like parts.
- 20      Figures 1-10 illustrate the use of a host podium to manage tables in a restaurant, and allocate a table to a group.

Figures 11-20 illustrate the user and/or the group interacting with an interactive table to order food and or/drink, as well as illustrating the other features available in the system.

Figures 21 through to 27 illustrate the Order Manager or the waiter's station where a waiter or Order Manager works with the order submitted by the users to process it as well as also having control of the tables in the restaurant.

Figures 28-31 illustrate aspects of the operation of the interactive order system as it might apply to the running of a hotel.

#### Restaurant Overview

The restaurant management system of the invention involves interaction between three principal groups, including the customers of the venue, designated as users in the present application; the host podium under control of the maitre d'hotel; and an order manager under the control of a waiter. The host podium manages the allocation of resources in the restaurant and is able to monitor the activity and status of all other parties in the system. At the host podium an interactive screen is used that allows the maitre d'hotel, called a host in this system to view the overall status of the restaurant tables and also to view in detail the activity of each table, any orders from that table and to direct the work flow in the restaurant to the available waiting staff. The host podium therefore includes a number of screens of discrete information that is provided to the host, and allows the host to changes the status of information in relation to individual tables. Typically the host podium allocates tables and ensures that the tables are properly managed.

The maitre d' greets incoming guests and directs seating arrangements.

When a group enters the restaurant information about the group is recorded. The information related can be used to ensure that the appropriate user screens are made available to the restaurant customers, for example, the user screen may be altered to accommodate user groups of different nationalities. Similarly, the group information may record that the group is a group of children and that certain menu screens (typically, alcoholic beverages) should not be made available. The recorded information is also available for the restaurant's own business purposes and might include group size, age distribution within the groups and time of arrival. As will be seen, as the orders placed by the groups are all recorded electronically, the restaurant then has a record all information relating to its customers and can use this information to plan future management of the venues, for example, menu planing, staffing levels required at certain times, stock control for beverages and other relates functions. The information recorded can

also be financial information such as credit card details and so on. Usefully, it is also possible for the users to have the information recorded on a smart card.

The information recorded is, as will be discussed in further detail below, made available to the host. For convenience, the information provided on entry may be collated into several fields so  
5 as to be easily accessible within the system. The major fields include:

*Profile* - certain profiles exist in the system that have pre-determined characteristics. Thus a separate profile might be established for groups of different nationalities, for groups including children, or for groups arriving for special occasions. Not all groups arriving need to be allocated a particular profile, but the profile tool assists in providing service directed to specific  
10 customer needs. The profile enables the host and order manager to be alert to the likely needs of a group of any profile. The profile also enables the host to select the most appropriate interactive screen for the group. The profile therefore also characterises the product description and allows the system to identify those files used in the product description. Thus, a profile for Japanese guests is able to extract the relevant product descriptor files for the Japanese language  
15 and the menu includes the appropriate video segments, image and text data for the Japanese language such that the screen viewed by the guests enable them to select and order items from the menu without difficulty.

*Seated* - Provides an indication of the number of guests at the table. This can assist the host to select and monitor the level of waiter assistance needed by each table and therefore to optimise  
20 the allocation of tables to waiters.

*Guest Name* - It is of course advantageous if the relevant guest name is used at all times.

*Comments* - Any special comments related to the group can be recorded.

*Child Lock* - The child lock serves two important functions. From the perspective of the restaurant operator it is important that the laws governing the serving of food and alcoholic  
25 drinks to minor is upheld. The child lock allows a bar to be placed on any alcohol orders from a particular table. Where this is in operation there is therefore no need for any waiter to establish the status of the individuals at the table before processing an order. The child lock also serves as a control for parents, or responsible adults to control any unwanted ordering of products by children.

In cases where the users are issued with a smart card, the various operators and managers throughout the restaurant may use this card, whether for access to tables or to other activities such as rides and entertainment areas. Thus, the card serves as a pass to access a particular station. There may also be card-checking station around the restaurant whereby a customer  
5 may be asked to provide their card. If the card is valid, a visual indicator such as a green light may be used to signify that the user is authorised to be in a particular area. Conversely a red light may signify to the operator that the user should not be there.

### The Host Podium

10 A typical first screen 100 seen by the host podium is shown in Figure 1. The layout of the screen shown in figure 1 mirrors the physical layout of the tables and other facilities in the restaurant and includes a number of indicia that provide the host with information regarding the status of each table. The screen may be a touch screen enabling the displayed screen items to be selected by touch, or alternatively a point and click mouse may be used for item selection.

15 There a background layout of the tables and areas within the restaurant can be seen by the faded lines including a bar area 102, booths 104 and tables 106. Superimposed on each of the tables and booths is a rectangle 108 with a coloured frame 110, a top left hand side number 112 within the frame, a bottom number 114 and a small square 116 within the top right hand side.

20 Each table 106 in the restaurant has a respective rectangle. The rectangle is divided into discrete quadrants that each hold and display certain information regarding the table and its occupants. The information is displayed so as to communicate quickly to the host relevant information to assist the host in overseeing operations within the restaurant area.

25 A legend 118 provides an explanation of the meaning of each of the status indicators used for the tables. The legend 118 also provides the host with information regarding the status of the interactive system on each of the user screens that appear on the interactive tables. The host will therefore know whether the system is Not Reachable, Not Running, Initialising, and so on. This information assists the host in determining whether any guests at the interactive table require assistance, for example, because of system problems. A small square in the bottom left-hand corner of each table status rectangle indicates the machine status.

The frame shading or colour indicates the status of the table. It is therefore possible to ascertain at a quick glance those tables that are occupied and those that are vacant. In addition to this the table status indicator as shown in the legend enables the host to distinguish between tables that are out of service, tables that are being cleaned and tables that are reserved. These functions will be described in greater detail below. The left hand side number 112 is the number of the table, the bottom number 114 the amount of time that the table has been occupied by a particular group, whilst the right hand square 116 is a unique colour or shading of the waiter that has been allocated responsibility for this table.

The host podium is able to control all of these features accordingly. It is to be understood that whilst the following description uses shading to differentiate between different attributes of a table, it is expected that in use, these attributes would be defined by the use of colour. Thus a green border indicates a table is allocated, a red border indicates that the table is vacant, a black border refers to an out of service table, and an orange border that the table is being cleaned, whilst a purple that the table is reserved.

Where the restaurant includes both interactive tables and conventional tables, it is important these are distinguished from one another. Thus, in the present system, an interactive table is distinguished from conventional tables by a border including zigzag lines. Interactive tables include their own interactive user screens thereby enabling the users to select food drink and entertainment options from their table directly. Conventional tables issue food and drink orders to a waiter. The host can easily distinguish these tables on the floor plan and is therefore prompted to take note of the different waiter service requirement that might be needed by the two types of tables.

As seen in Figure 1, the conventional tables are located on the outside of the floor plan, whilst the interactive tables that have cross-hatched lines in the table border are located towards the centre of the restaurant.

Figure 2 illustrates six interactive tables shown in more detail. Thus a first table 120 having a number 1 for the left hand side number 112 indicates to the host podium that it is table 1. The border 110 matches the Table Allocated shading 122 in the legend 118 that thus indicates to the host that the table is in use. The bottom number 114 indicates to that customers have been seated at that table for 0:15 hours or 15 minutes. The shading of the top right hand square 116 indicates to the host the identity of the waiter servicing this table, which is different, for

example, to the waiter 124 identified for table 2. Table 1 further includes an exclamation mark 126 that indicates to the host that there are further details available on the group at this particular table.

5 On arrival at the restaurant the host will allocate a table for each group. To allocate a table, the host selects the table by click on the table that they wish to allocate. Of course, clicking on any table will then bring up the table details screen 128 that provides the host with detailed information for the selected table.

10 The table details screen is shown in more detail in Figure 3. The table details screen shown in Figure 3 provides various information to the host for the table, the information being related to certain categories, for example, status of the table, time seated, guest name and such like. For some categories of information there are associated buttons that enable the host to edit the information. To insert comments or edit comments, the host selects the appropriate button and enters text in the text box provided edits the information.

15 Thus when the host first selects the table, as shown in Figure 3, there is no information on the table, the table simply shown as being vacant, both by the button symbol 130 being a T and the text next to the button stating that the table is vacant. A table may be vacant, but may also simultaneously include comments such as a guest's name, and party expected arrival time details. Thus, the table can be vacant but reserved, with details of the reservation made available to the host. As shown in figure 3 the table has been allocated and the status button  
20 and text confirm this.

To view and edit the details of a table the host selects the table once on the floor plan. The table details window will then appear. In the main left hand side of the form the session details of the table appear including the table status 130, profile 132, number seated 134, guest name 136, any comments 138, child lock 140, and (where used) whether or not any cards have been  
25 swiped 142.

In the table details section seen in the upper right hand quadrant, the table number 144, table capacity 146 and colour of the table 148 (waiter allocation) are each able to be identified.

On the lower right hand side of the table details screen, there are 'Requires Help' 150 and 'Bill Requested' 152 buttons. If either of these buttons is of a different shading or colour, generally bright red, then action on the interactive table is required.

- 5 By pressing the 'Advanced' button 160, advanced table functions are accessed including software functions related to restarting the system, shutting down the system, and retrieving the system status or the hardware functions of rebooting or shutting down the computer.

Pressing the 'Clean' button 154 whilst the interactive screen is running will clean the recorded details for the interactive screen. Below this is the time 156 that the guests have been seated at the table and whether or not the current customers have ordered any food/drinks 158.

- 10 By selecting the appropriate button, if there is one available, the host can edit details associated with a table. Once the details have been satisfactorily recorded, selecting the 'Apply' button 162 and then closing the window using the 'Close' button 164 saves the changes. When the host then allocates a table, the software is actually initiated and is therefore ready to accept activation at the table.
- 15 At the table the guests activate the screen to start the programme. Either clicking a mouse or touching the touch screen activates the programme.

#### Allocating a Conventional Table

- To allocate a conventional dining table, that is one that does not have any interactive capabilities, a conventional table whose border matches that in the legend indicating that the
- 20 table is currently classified as vacant table is selected from on the floor plan. Selecting the table brings up the table details screen as seen in Figure 5. The host may change the 'Table Status' by selecting the table button to bring up the status selector screen dialog box and selecting the appropriate status. The system then prompts the host to provide the number of guests sitting at the table by way of a keypad as shown in figure 6. When the number of guests has been
- 25 selected or typed in, this is then confirmed using the OK button 168. If appropriate, it is also possible to enter the guest name by pressing the 'Guest Name' button 136 to bring up the edit guest names screen. The guest name details are confirmed an entered as shown in figure 7. If appropriate, comments may also be entered into the table details screen by selecting the 'Comments' button 138, which brings up the edit comments screen where we it is possible to



enter useful comments, for example, non-smoking. Again the selection and comments are confirmed before the dialog box is closed.

Once all of the details are correct and verified the 'Apply' button is activated followed by the 'Close' button. The border of the table now changes its shading or colour equivalent to indicate the table status 'Allocated' as confirmed by comparison with the legend.

#### Allocating an Interactive Table

To allocate an interactive table such as table 2 seen in Figures 1 and 2, again the table is selected on the screen by pressing the table once on the floor plan. The table details screen will then appear, as shown in Figure 3. The table status is edited by selecting the table status button that will a dialog box that allows the table to be given a status of 'Table Allocated'. The host is then prompted to select a profile via profile selector 132. The profile will be discussed in more detail later but briefly, it selects the navigation video that will be played by the system to the users at the table and that may present any appropriate graphics for the user to see. A profile selection is made from a drop down list and confirmed using the tick button 166. Selecting the '# seated' button 134 brings up a number seated keypad and, allowing the system to record the number of people in the group.

As with a conventional table it is possible to enter a guest name and any comments. The 'Child Lock' setting 140 is, by default, set to yes. To select 'No' the child-lock button is activated by pressing twice to select 'Yes'. The host then has a choice whether or not to swipe a card for each patron seated at the table by selecting button 142.

Once all the details have been entered and confirmed as correct the host saves the details by selecting the 'Apply' button followed by the 'Close' button. The border 110 of the table now changes to indicate 'Allocated' status. Further, the table includes an exclamation mark 126 indicating that there are comments about this table in the table details screen. The host is therefore aware that special comments are relevant to this group.

It can be observed that the icon on the 'Table Status' 130 button changes to a picture showing people seated at a table once the table has been allocated.

### Reserving a Table

It is also possible to use the table allocation system for the purposes of reserving a table. To reserve a table, the table is first selected by the appropriate button on the floor plan. In the 'Table Status' dialog box 130 a 'Reserved' option changes the table status. As with the allocation of other tables it is possible to enter a guest name and any comments that may be necessary. When all relevant details have been entered the selections are saved using the 'Apply' and 'Close' functions 162 and 164 respectively. The border of the table has now changed to the same as in the legend indicating that the table is now reserved.

### Setting a Table into Cleaning Mode

As will be appreciated in restaurants, table cleaning and resetting is normally required between occupancy by successive groups. Table cleaning would normally be activated by either a waiter or the cashier, but may also be initiated at the host podium as required. The 'Being Cleaned' option is selected at the 'Table Status' dialog box 130. The table details status then changes to table being cleaned, whilst the border 110 of the table changes to the same as that in the legend to indicate that the table is being cleaned.

### Setting a Table to Out Of Service

To set a table to 'Out of Service' once the status selector has been displayed the host selects the out of service option at the Table Status dialog box 130. This may be useful in situations where, for example, the monitor or the table is inoperative or requires attention. In these situations the 'Comments' 138 button may be used to provide further information relating to the reasons underlying the unsuitability of the table. The table border 110 will show a black border that according to the legend indicates that the table is out of order.

### Vacating a Table

When guests at a table have departed and all cleaning functions have been completed, the table is then available for re-use and the Table Status 130 is edited to 'Vacant'. Thus when the vacant option is selected through the Table Status dialog box, and the table border 110 as viewed on the screen changes around the table to indicate that the table is vacant.

### Temporary Cleaning Mode

It is also possible to suspend the use of the interactive screen during use to enable the screen to be cleaned. The 'Temporary Cleaning' mode is thus independent of the comprehensive cleaning that takes place between sessions of table occupancy and is there to allow food and/or grease marks to be removed without losing access to other data and information relating to the group present at the table. To place an interactive table into temporary cleaning mode so that the screen may be cleaned whilst the system is still running the table is selected from the floor plan, and the 'Table Status' button is selected to bring up the table status dialog box. Select the 'Clean' option, will bring up a screen prompt which, if confirmed sets the screen to cleaning mode.

### Table Properties

The colour of the table is shown in the upper right hand quadrant of each table and represents that colour of the waiter responsible for the table. To change this colour, that is, to allocate a new waiter to the table, the table is selected in the floor plan once. In the 'Table Details' section of the table details screen we press the colour in the upper right hand quadrant is highlighted. A dialog box indicating a list of available colours appears and the appropriate colour is selected. Applying this colour change will then change the colour on the table indicia on the table details window. The waiter responsible for the table has now changed.

### Responding to customer actions

Interactive tables have a user screen located at the table. The user screen provides a number of options that will be discussed in detail below. For present purposes it is important to note that the guests are able to request help and order an account using their interactive screen. Where a customer using an interactive screen has requested help a question mark 150 (usually red) will be flashing on the table as it appears on the floor plan screen. To action the request the host selects the table and the table details status screen appears. The required help button will then have a question mark 150 (also generally red). When the customer's query has been satisfied the host can remove the query from the screen by selecting the question mark button once, such that the question mark will then become transparent. The change is verified by using the 'Apply' and then 'Close' 162 and 164. The question mark disappears indicating that help is no longer required.

When a customer using an interactive screen requests a bill a B indicated at 152 (usually red) will appear on the corresponding table on the floor plan screen and on the corresponding table details screen. To respond to request the host selects the table to bring up the table detail screen. The bill requested button appears as a highlighted B 152 on it. A bill is issued by  
5 selecting the highlighted B button 152 once, at which point the B becomes transparent. The transaction is verified by selecting the 'Apply' button followed by the 'Close' buttons 162 and 164. The host has now responded to the bill request.

The host podium therefore allows the host, or maitre d'hotel to overview the operation of the restaurant very quickly by viewing the floor plan screen. The tables that are currently occupied  
10 are indicated together with the relevant waiter responsible for operations at that table. Further the system is easily interrogated to provide more detailed information about the occupants of each table. From the management perspective a great deal of information is collected that can be of use in planning the operations of the restaurant. From the perspective of the maitre d'hotel the smooth day-to-day operation of the restaurant can be optimised by correct  
15 allocation of resources and by allowing the maitre d'hotel to maintain a close watch on each of the tables. Further, the system easily accommodates changes in waiting staff, for example for shift changes without hitch as all information needed is recorded on the system and accessible.

#### Using the Interactive table

The interactive tables are also accessible by the users of the system, that is, the customers of  
20 the restaurant. When guests have been allocated a table by the host, the host initialises the software that the guests will use at their table. Then the guests are welcomed at the table with a welcome screen where they are prompted to start the interactive session. A typical screen is shown in Figure 11.

Throughout the use of the interactive session, guests are entertained by the use of various  
25 graphical screens. For example, when moving between different options, rather than menus, an old type interference screen may be used to provide a visual indication to the users that one is changing form one part of the programme to another.

After the programme has been started it usually goes through several entertainment screens until it reaches the main menu from which the guests may select what their preferred option.  
30 The main screen is shown in Figure 12, this main user screen provides the user with a number

of options. The screen is in fact divided into a number of discrete parts, seen more clearly in Figure 13. In fact the main user screen is in fact a HTML page with a video embedded therein. Hence a video is played in the frame of the HTML, the video being either a start up video or a navigation video. The navigation video will be discussed in more detail later on in the specification. Thus we have the main navigation video part 170 where the user may select from a number of menus, such as ordering drinks 172, food 174, shopping 176, a TV option 178 and a Fun option 180. There is also an advertising section of the screen 175, in the form of an uppermost banner section, that plays advertisements, a help section 177 providing help to the user, a category selection 179 which shows to the user what foods and drinks they have selected, and an active section 181 giving options to navigate through the screens such as the Home option 182, Help option 184, Back option 186 and an options option 188. It should also be noted that the screen has a volume controller 204 on the right hand side to assist the users in regulating the volume on all sound effects.

The user therefore makes an initial choice of option. At this stage it is possible for the menu to be blocked so that, for example, some options such as Fun or Shopping are unavailable until a food and/or drink order has been placed.

The user makes the initial selection by clicking on the screen at the appropriate position. Thus, to order drinks the drink option 172 is selected. Within the drink category there are then several tiers, or layers through which the user may navigate to make a selection. At each tier the user is presented with a number of options in a category and at a subsequent level with a range of options that fall into the category selected. Thus selecting the drinks option may produce an initial selection of primary drink categories, for example, selecting the drinks option 172 on figure 12 brings forward the drinks menu shown in figure 14 including:

Mocktails 190;

Cocktails 192;

Coffees & Teas 194;

Kids' Drinks 196 ;

Shooters 198;

Soft Drinks 200;

Spirits 202;

White wine 205;

Red Wine 206 ; and  
Beers & Alcoholic Sodas 208.

It can be seen that each of these listed items are not in themselves specific drinks but a more generic description of a category of drinks. The user therefore makes a first selection of the type of drink they require. . Within each of these categories is a tier of secondary drink categories that are presented. Thus, once a user selects, for example, the children's drink menu 196, a further range of secondary choices is presented as shown in figure 15, for example, milk shake, smoothie 210, fruit juice and so forth. Typically, the options are presented in the form of a static video where there is displayed on the periphery of the screen a range of options.

Once an option is selected, this is highlighted then the selection changes in colour and additional information regarding the product is then provided in the centre of the menu. The additional information may be in the form of further graphics, or alternatively may even be in the form of a video clip that sponsors the product.

As shown in figure 15, below the large image of the smoothie 210 are listed a number of options buttons, such as banana 212, and tropical 214. These selections may be termed condiments for present purposes and refer to a final customised choice of the product. Condiments are selected by highlighting the relevant button. A choice is finalised pressing the add button, in this case the large tick button 216 at the bottom right side of the screen. The order will then appear on the left hand side of the menu where it indicates that 1 drink is on the order pad (see Figure 12 and 16). This order has not been sent to the kitchen, the order pad simply provides information to the user prior to submitting an order to the kitchen.

Every choice on the selection video is in fact simply a choice of the co-ordinates of the screen, which the software relates to a certain product. Since all the information is therefore graphical rather than textual, different graphics maybe used for the each product. This is the so-called profile that was mentioned above. It means that someone may for example provide a Japanese menu and an English menu, both of which would order the same products but be in completely different languages. Furthermore, completely different videos may be used, such as a sports video, or a theme video, whereby the venue may choose different themes and which does not change the products and options available.

The logic governing the operation of the drinks menu, that is, a series of increasingly refined choices commencing with a primary selection of product type, moving through a secondary

category and into a third category, in which the user customises the selection, is common to each of the menus within the system. Moreover, it will be appreciated that depending on the nature of the product to be ordered there may be variable numbers of levels to be followed through before a product order is finalised. In each menu system the term condiment is used to describe the final selection of flavour additions made by the customer.

Besides normal condiments there are also available in the fixed condiments, that need to be selected by the customer such as the customers selection of meat cooking conditions for example, rare, medium, well done and so on. As with previous selections, once the product and cooking temperature has been selected the product is added to the order by selecting the 'Add' button.

It can be seen that the present invention allows the user flexibility in selecting and creating their own products. As a further example, the customers may select their own pizza, for example.

Figure 16 illustrates the main food menus accessed by selecting the 'Eat' 174 option in the main screen on figure 12. In an attractive feature of the system the eat menu can appear by running a video clip of the fridge icon associated with the EAT option opening to reveal the food categories shown in figure 16, such as Entrees 218, Salads 222, Mains and Grills 220, and Pizzas 221.

After selecting the Pizza menu 221, the customer builds a pizza by selecting the product Build-A-Pizza. When this product is chosen, some eight condiments are shown to the user who can then add the toppings.

The total price that is seen just above the 'Add' or tick mark. As the user selects or deletes additional toppings, the price changes to reflect the current price of the product chosen and built by the customer. This ensures that the customer knows the exact price of the product ordered. Similar build up options for creating food can be used in other food product types, for example, in burger products the toppings are equally susceptible to customers selections..

The flexibility of the system allows the food and beverage manager to control the condiments listed even to the point that they are not suitable. This also illustrates that the system can be changed to accommodate the busy kitchen in today's restaurant. For example, if a particular

special has been sold out, the food and beverage manager can easily change the menu and remove the special without any of the customers knowing. The food and beverage manager or the screen builder is discussed in one of the accompanying specifications listed above.

When the customer has selected all of the products they wish to order, all of the products  
5 appear on the customer's order pad. The order is confirmed by selecting the 'Transmit' option  
seen 223 on the main screen figure 12. Selecting the Transmit button 223 will bring forward  
the customer order pad, as illustrated in Figure 17. This now presents the customer with a  
chance to edit their order, that is, delete products, or alternatively return to the menu and select  
further orders. For a product to be deleted the cross 224 next to the product description line is  
10 simply pressed which will indicate that the product is deleted by putting a line 226 through it.  
To delete a product can be undeleted by now pressing the tick symbol 228 next to the product  
(which changed from a cross to a tick as the product was deleted). Once satisfied with the  
order, the user then presses apply change button 230 if changes have been made. If no changes  
have been made or when they have been applied, then the user selects send transmission 232,  
15 which will send the order to the waiter's podium.

However, in cases where a child lock has been enabled on the system the system will prompt  
the user to verify their selection by either use of a smart card (if enabled) or other like  
technology.

Once the customer has ordered a food and/or drink that the other features of the main menu  
20 screen figure 12, such as fun 180, TV 178, and shopping 176 will be accessible, having been  
locked previously.

As illustrate in Figure 12, the system provides an Options menu 188. Selecting the Options  
menu 188 brings forward the screen shown in figure 18. The user is able to either summon the  
waiter for assistance 234, request the bill 236 or fill out a questionnaire 238. This then appears  
25 on the host podium as a highlighted button Requires Help 150 as shown in figure 3 as  
discussed hereinabove. If a request for help from the waiter has been sent, a message  
confirming that a waiter has been called will appear on the table screen.

Figure 19 illustrate the typical menu for the Shopping menu, and Figure 20 that for the TV  
menu. As with the food and drink menus, the Shopping TV and Fun menus serve as a staring  
30 point leading to further menus with which the customer may interact.



It is important to note that at the bottom of the screen there may very well be a textual message that enables the user to understand the menu structure to assist in navigating their way through various menus. At the top of the screen there is the potential for the system to provide advertising. Advertising can be linked to a particular profile and there are two types of  
5 advertising. There is system wide advertising or system advertising and there is also category advertising and a mixture of the two. Thus, in a general menu, the system may provide advertising about any of the features of the system such as the restaurant's own products. In category advertising, the system may provide advertising in connection with the menu being viewed by the customer. Thus, if the customer selects the 'Beer' menu in the drinks menu,  
10 category advertising results in adverts being played that relate to beer. The advertising may also change according to the category. It is also possible combinations of advertising, that is, a mixture of system advertising, advertising specific to the product categories under consideration by the user at any point in the system and advertising unrelated to either the system or products. Advertising can also be related to profiles in the system. Thus advertising in  
15 relevant languages where profiles relate to different languages.

There are certain features of the system that should be noted.

The customer may move between menus and place drinks and other products on the order pad but an order is not transmitted until the customer is ready to do so. Where appropriate a time limit can be set on the order placement, although this is an optional feature of the system.  
20 Customers can therefore batch orders by ordering drinks first and then meals.

The navigation video that includes graphics information for the products can be viewed in discrete sections therefore allowing the customer jump around the menu items as desired. Thus, if a drink is ordered and the customer then decides to order an entrée, it is possible to jump to the top menu and then choose eat and then choose entrée. The customer is therefore  
25 free to determine the order in which their food and drink items are selected. Each of the products selected has an associated cost that is displayed, and it also is possible for the customer to track their spending in the restaurant.

When the customer selects a feature there is also usually an audio indication that something has been ordered thereby drawing the attention of the customer to the fact that a product has been  
30 selected and further the order pad note flashes to indicate to the person that they have placed an

order. Every action has a unique sound that is tailor able for the screens. There is also a volume control that enables the volume to be adjusted electronically.

#### Order Manager or Waiter's Podium

In addition to the Host Podium the system also incorporates one or more Order Managers. In the case of a restaurant the Host Podium screens are used by the maitre d'hotel to oversee the operations of the restaurant, whereas the, or each Order Manager, corresponds in effect to a waiter. Each Order Manager has a number of specific functions being principally responsible for the management of orders placed by and delivered to each of the tables under their direct control. The system provides the Order Manager with the tools to fulfil this responsibility.

- 10 An Order Manager screen 235 is illustrated in Figure 21. The basic layout is of the Order Manager screen is similar to that of the Host Podium, particularly in the sense that the floor plan layout corresponds to the floor plan in the restaurant and that the each of the tables in the restaurant is very nearly the same as the host podium discussed above.

- 15 The floor plan of the order manager system shows the floor plan of all the tables 106 that have an interactive table. Each table 106 is represented graphically by a square (or rectangle) 108. The frame 110 of the table shows the current status of the table as shown in the legend. For example if the frame is in a colour system red the table is vacant, if the frame is green the table is allocated, if the table frame is orange the table is being cleaned, if the frame is purple the table is reserved and if it is black it is out of order. In the top left hand corner there is a number 112 that represents the table number. In the right hand corner there is a coloured square 116 that represents the waiter responsible for the table. An exclamation mark 126 in the coloured square 116 draws the attention of the waiter to the fact that there are further comments specific to this table to be by interrogating the table details section of the system.

- 25 There are however a few important differences between the order manager screen and the host podium.

A key feature of the order manager screen is a number 237 appearing in the bottom half of the table indicating to the waiter how many orders that from that particular table are yet to be processed. Thus for table two, there is one order that is yet to be cleared by the waiter. In addition the bottom half includes a colour 239 or shading that indicates to the waiter visually

the time elapsed since the order was placed. A colour change progression as the order ages allows the waiter to direct attention to those customers that are likely to require attention.

In the embodiment discussed herein the Order Manager system is adapted to interface with existing Commercial Kitchen Operation software.

#### 5 Understanding the Table Details Window

To view the table details the Order Manager selects the relevant table on the floor plan. The table details window 240 is displayed that shown in Figures 22 and 24. On the left hand side is a grid 242 that lists all of the products ordered by a customer using the table that have not yet been sent though to the kitchen (see figure 24). These are grouped by category. Each item will  
10 be shaded and preferably coloured green, red or blue. Those that are green have been cleared for transfer into the kitchen operation system. Those that are red are not yet cleared. Those that are blue are those that have been deleted. There is also an icon to the left hand side of each item and a legend in the right hand side where delete is represented by a rubbish bin, cleared by a play button and not yet cleared by a pause button.

15 To the right of each product is a grid 246 showing the minutes since it has been ordered into the system. To the right of this is a grid 248 showing the minutes since an item has been imported into a standard kitchen software system such as that known under the trade mark Micros. If the products have not yet been imported into Micros the time is 0 minutes. To the right of the grid are fast and slow scroll buttons 250 that enable scrolling through large number  
20 of items.

On the right hand side of the screen 240 is the item options area. From here it is possible to undertake a variety of tasks by selecting appropriate buttons such as delete a particular product 252, tick all products 253, print a list of all the products 254, undo changes 256, and show the products that have been sent to Micros 258. Below this is the legend explaining the items to the  
25 left of each of the items on the grid.

Below this are the table details for the table. Here by selecting the appropriate buttons the number seated 260, the guest name 262, and the guest comments 264 may be entered into the system. The addition or amendment of data in the Order Manager table details screen proceeds

along similar lines to that previously described for the Host Podium table details screen shown in figures 3-10 and will not be described in detail again.

Colour selection button 266 also enables a waiter to be allocated to the table. Finally buttons 268 and 270 provide information or whether or not there are any requests from the customer needing help or a bill. The table colour 266 indicates the identity of the waiter responsible for the table. At the bottom of the section are two numbers 272 and 274 providing confirmation as to how long the customer has been seated and whether or not they have ordered yet.

Below the table details area is a set table status area that allows the waiter to select buttons that set the table as being cleaned 276, vacant 278 or out of service 280. Again this process is as depicted in the corresponding screens for the Host Podium.

It should be observed that any changes to the table details made by the Order manager will be reflected on the Host Podium screen and vice versa. Thus, the Order manager and Host Podium are able to communicate information regarding customer service easily.

At the bottom right is also a button 282 that allows the waiter to essentially freeze the programme or the screen so that it may be cleaned. As will be readily appreciated in a restaurant environment a touch screen may very well quickly become sufficiently grubby to interfere with use and is likely to require regular cleaning. The ability to temporarily withdraw the screen from the system is therefore a useful feature.

Further buttons at the bottom are the apply button 284, close button 286 as well as a clock 288 displaying the current time. To exit back to the floor plan one chooses the close button 286.

Shown in Figure 23 is the waiters screen illustrating the visual warning legend 289 for shading the bottom half of the table representation 239 to assist the waiter in knowing which tables have placed an order that has not yet been sanitised by the waiter. These times may be changed to suit the particular system and are configurable by the system administrator. The order of the visual times may be for example yellow, orange, red and blue. The system administrator will define the number of minutes between each colour change such as 5, 9 15 and 20 minutes.

Processing an order

Once an order is present on the details table, such as that shown in Figure 24, it may be cleared by selecting the items, confirming the order using the 'Apply' button 284 and pressing close. Thus in this example, the Miller item 291 was cleared by simply selecting on it, whilst Hahn Premium 290 and Wok vegies 292 have remained uncleared.

Highlighting an item and then selecting the 'Delete Item' button 252 at the right hand top side of the screen removes the item from the order list.

Since the items on the order grid are separated into their categories it is possible to select and deal with one category at a time. Thus, to clear all of the drinks items, rather than select each item individually, the 'Drinks' heading is selected which changes the status of all the drinks. If the 'Drinks' category is pressed again all of the items change back to their uncleared state. To affect all categories simply clicks on the tick all items button 253.

If an item has been deleted pressing the 'Apply' button will remove the items from the display.

To edit a table's orders the table is first chosen and the orders edited as necessary. To undo the changes the refresh/undo function is used. The 'Refresh/undo' function 256 serves to refresh the screen to obtain any new orders and secondly it undoes any changes.

Thus, as has been previously seen, the user makes a selection of food and drink items from the menus and customises them accordingly, before verifying the order and transmitting the order to the Order Manager. In turn, the Order Manager has the opportunity to assess and validate the order before it is sent to the kitchen. This double check provides the Order Manager with an opportunity to query any questionable orders with the customer before the meal is produced.

The Order Manager can also review the orders that have already been sent to the kitchen, by selecting the 'Show sent' 258 function. Colour coding for item status is used to indicate whether an item has been sent to the kitchen and when the order was sent. The system therefore has the ability to track both customer order and orders sent to the kitchen.

Table Status

The Order Managers also have the ability to change various information associated with a table as well as to clean the table. After selecting 'Table Being Cleaned' 276 a dialog box 294 appears, as shown in figure 25 requesting confirmation of action 296. Subsequently using  
5 'Apply' 284 and then 'Close' 286 the table is then shutdown so that it may be cleaned. As discussed above on the floor plan the frame 110 of the table also changes to indicate that it is begin cleaned.

To change the status of the interactive table the 'Table Out of Service' button 280 is selected and the again dialog box 294 appears. When confirmed the status of the table has changed as  
10 well as the border indicating that it is out of service.

The waiter can also change the status of the table of being vacant by selecting the table Vacant button 278. This time a new pop-up window appears that not only requests the user to confirm the shutdown but also suggests that once this is done, all of the existing orders on the table will be archived. This information may then be subsequently used by the food and beverage  
15 manager or system administrator to provide statistical information on the ordering habits of a group using the interactive table.

Since many guests may access the interactive table menu system through the screen, the screen may at times become dirty and may require cleaning. Obviously as the screen is being cleaned one does not want to inadvertently interact with the system. The waiter then has the option of  
20 placing the table into a cleaning mode that does not stop the interactive software but rather disengages the screen or the mouse to be inactive. To do this the waiter selects clean table button 282 that will bring up a pop-up window asking for confirmation of this order. The system then allows a temporary cleaning of the table and screen to occur without disturbing the existing customer orders.

25 To restart the system, it is preferable that this be done at the table by re-activating the screen. One way that this may be achieved in the present system is to require a person to select in order two discrete areas of the screen. For example, the system could be programmed that if a waiter presses the top left hand corner of the screen followed by the bottom right hand corner the programme is re-started. This may be further limited by the time taken between pressing the

two areas. For example, if the two areas are not selected within 2 seconds, the action will not be allowed.

#### Table Properties

5 The Order Manager sanitises the orders, resets or cleans the table but also has the ability to change various parameters such as the number of guests seated at the table. As shown in Figure 26 by selecting the Number seated button 260 a pop-up window appears 298 where the Order Manager can key in the new number of guests. This may be done if for example another guest later joins a group. The Order Manager may also edit the names of the guests, as and selection of the Guest Name button 262 brings up the relevant text entry box, similarly comments 10 specific to the table may be added using the 'Comments' button to produce the relevant text entry box 300.

#### Responding To Customer Actions

15 If a customer requires help or wishes to summon the account, they can, as previously discussed, use the Options Menu to select either of these two actions. If a customer has requested help using the interactive screen a question mark button 268 (generally red) will flash over the table 106 in the floor plan seen at the Order Manager station. To respond to this request the Order Manager selects the table to bring up a details window. To de-activate the question mark the waiter simply selects the button turning it off. Obviously the waiter will not do this until they have attended to the table or are about to.

20 Similarly if the customers have requested the bill a B sign will appear on the table floor plan and over the Requires bill button 270 in Figure 22. By pressing on this button the B (generally a bright red) will then return to transparent.

25 The present system therefore provides for a system that enters a group of users, allowing them to order interactively. The Order Manager can review the order and is provided with various information including

(a) A list of all ordered items sorted into different categories

(b) A measure of the time elapsed since that order was placed

(c) A measure of the time elapsed since that order was sent to the kitchen or bar

If the Order Manager has a query at any stage it is possible to print out the order and take it back to the table to confer with the customers. An Order Manager can thus confirm order details to ensure that a customer has not accidentally or wilfully ordered too much food, or  
5 ordered an unlikely food/drink combination.

The Order Manager can preview the whole order and if satisfied with it, they can send the whole order or part of it to the relevant area.

During all of these the table details are continually updated by the software in response to changes from the host podium and the waiter and even in circumstances the cashiers screen.

10 Generally a group of tables has a separate server for its configuration. But if one server was to experiences a shutdown, the system administrator can easily change one server for another and in a relatively short time.

Illustrated in figures 28-31 are some details of a second embodiment of the present invention in the form of a hotel operating a order system in accordance with the invention.

15 A hotel shares many similarities to an interactive restaurant as has been described above. In the place of restaurant tables the locations in a hotel are rooms, and, just as a party of people may occupy restaurants so, in hotel rooms there may be multiple occupancy of rooms. Also, people from a group may occupy a number of rooms and it may be appropriate to group these rooms together in a single profile.

20 In a hotel the host podium might be located at the hotel front desk and order managers located at other positions in the hotel. Just as a waiter is responsible for a number of tables in a restaurant and acts as order manager for these tables, so order mangers in a hotel can be allocated a number of room areas for which they have responsibility. It might be for example that an order manager has responsibility for a floor of rooms within the hotel. Alternatively, an  
25 order manager might have responsibility for an area in the hotel, for example the health club, or housekeeping areas. Conveniently, the interactive screen used by the customer is likely to be located in the room and might be, for example a TV located in the room.



Figure 28 illustrates a typical menu screen that might appear to a user in a hotel using the interactive ordering system. The user is offered a number of top tier options from which to make a selection. In this case the user can select from 'Room Shopping', 'Housekeeping', 'Room Dining', 'Health Club', 'Concierge', and 'Hotel Dining'. By selecting the 'Health Club' option, the user is then offered the options as depicted in figure 29. As with the restaurant set up described earlier, the user has the opportunity to select any option and make arrangements as necessary. In some cases it can be seen that the user might need to make a booking. This if the 'Massage' option is selected, the user will need to confirm booking arrangements prior to transmitting any order.

- 10 A typical booking confirmation that might be used in such a situation is depicted in figure 30. The customer is offered a number of payment options that can be entered, confirmed and transmitted with the booking. The order manager then has the opportunity to review the booking to determine that all details are in order before sending out the order for preparation.

- 15 Figure 31 illustrates a customer report summary a user of the system. The customer summary report is made available to the order manager and the host and enables each of these two people to review the status of the guest to determine

- Although the invention has been shown and described in what is conceived to be a preferred embodiment of the invention, it is recognized that departures may be made therefrom within the scope and spirit of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

For example, the present invention may be used in State of the art interactive multimedia hotel room facility that will provide for and cater for

- Customer care and preferences
- 25 • Hotel information and services
- Business information and services
- Entertainment services

- Travel and tourism information and services

For example, different customers have different preferences, some of which may include preference for smoking/non-smoking, newspaper/magazines, aspect of room and eating preferences

- 5 The present system can be used to maintain customer preference, the ability for customers to modify those preference, this data can be linked to a database and loyalty program, and can be associated to a membership card.

- 10 In addition the present system has added benefits to a hotel such as minimizing reproduction costs, upgrading of information cycle is significantly improved as is the maintenance of the information. The information is also dynamic and fun and enable customer feedback.

The system also provides Customers to a single point to access all hotel services, thereby minimizing intervention from hotel staff. Records of all requests are maintained creating a user-friendly database overall resulting in improved access to hotel services

- 15 The present system can also improved in-house entertainment such as movies, Internet access, computer games and educational applications. These services can be charged at an additional cost and can leverage existing customers and improve revenue.

The present system can also provide information on travel and tourism using exciting multimedia displays, advertising across all areas of interface, minimizing management effort of information, and improving the change and deployment process.

- 20 Dated this 27th day of August 2001

Xerts International Limited

By their Patent Attorneys

Lesicar Perrin

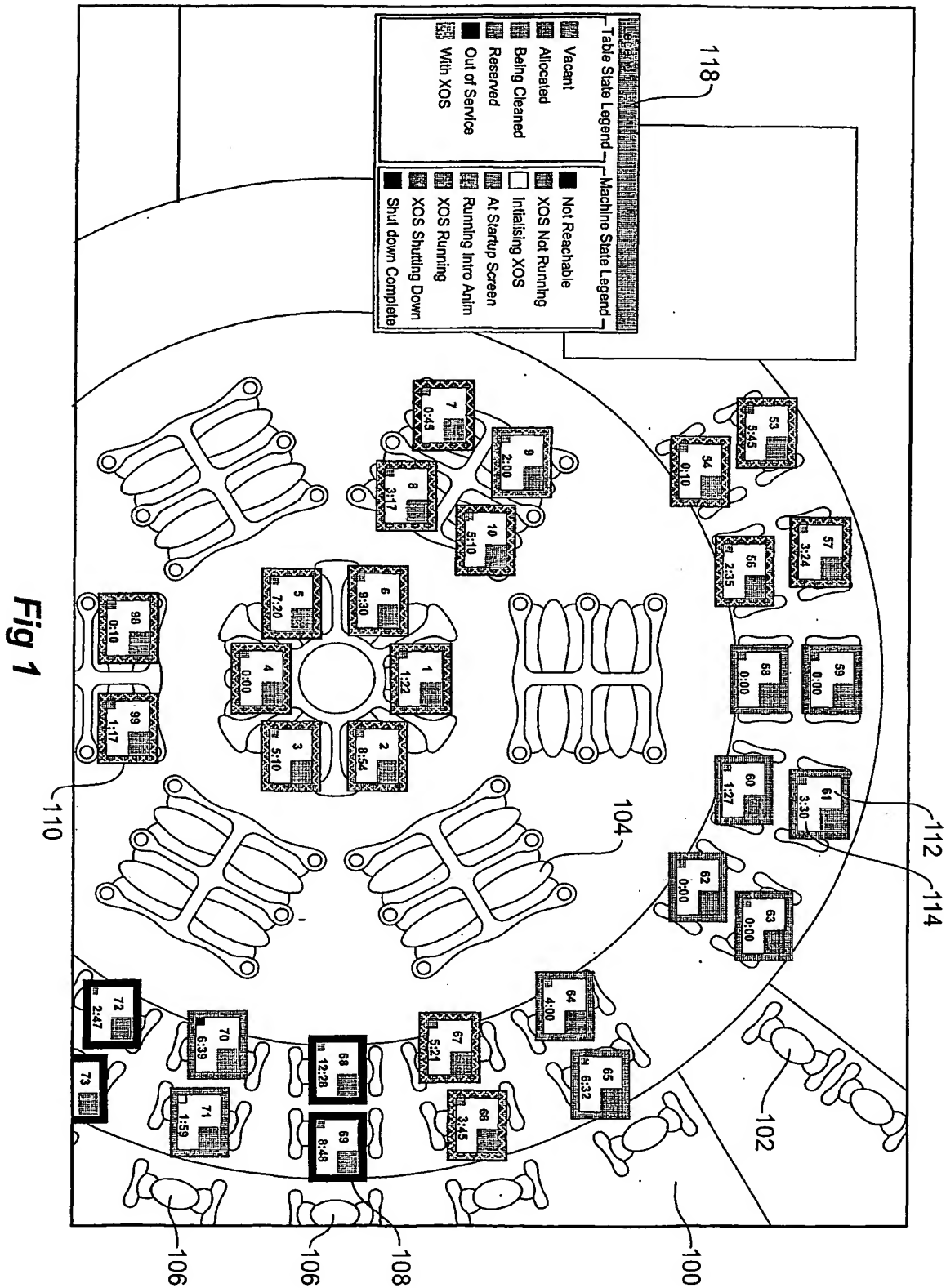
## THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

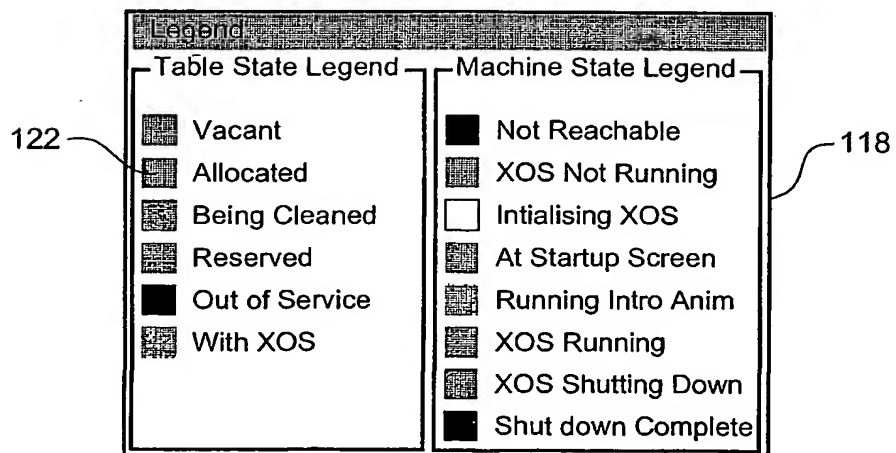
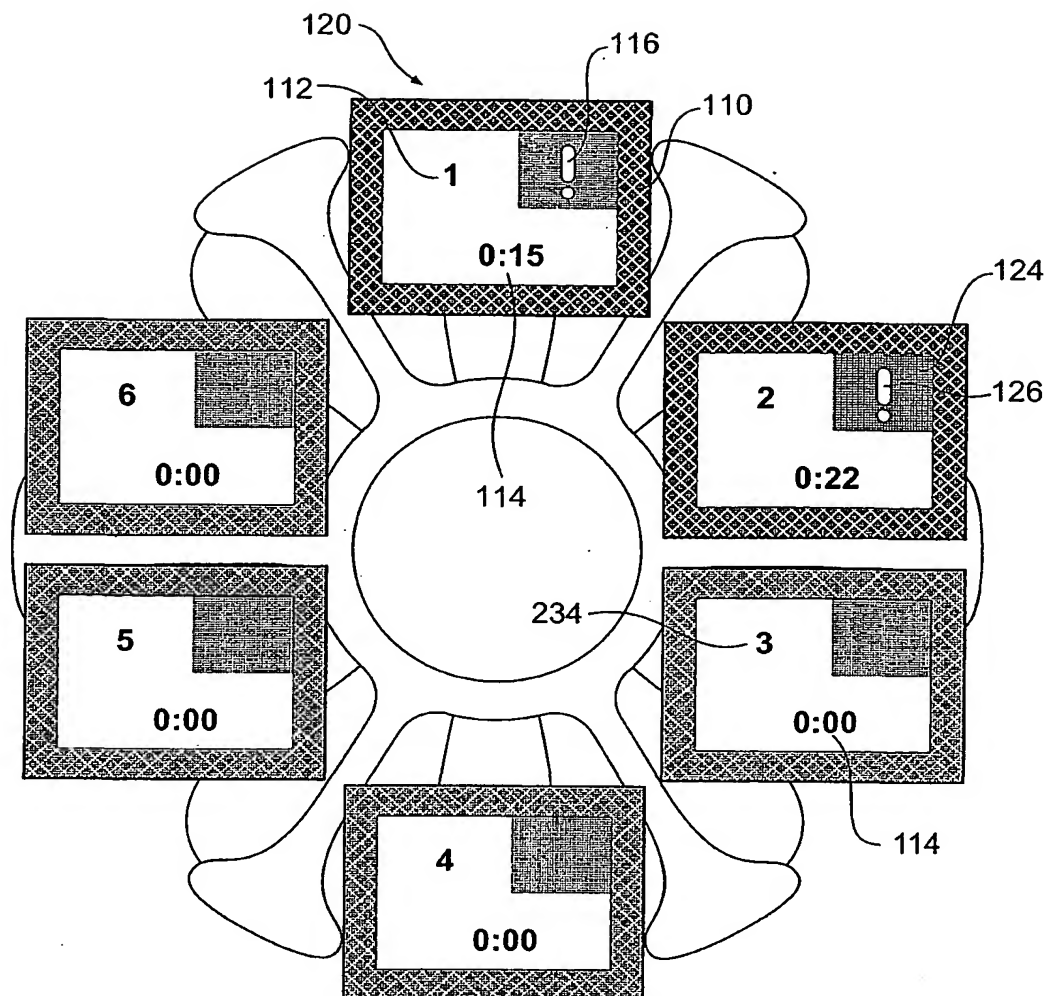
1. An interactive order management system for use by staff at an entertainment venue, characterized in that the system includes:
  - a host screen having means for recording, retrieving, displaying and transmitting
  - 5 .. information relating to guests at the venue; and
  - the host screen having associated therewith one or more order manager screens, each order manager having means for recording, retrieving, displaying and transmitting information relating to orders placed by guests; wherein
  - said host screen serves to monitor the status of guests and locations in the venue and to
  - 10 control activities of the or each order manager so as to optimise allocation of resources in the venue.
2. An interactive order management system according to claim 1, characterized in that the system further includes a user screen for use by guests at the venue, the user screen having means for recording, retrieving, displaying and transmitting information relating
- 15 to orders placed by guests at the venue.
3. An interactive order management system according to claim 1 or claim 2, wherein said information relating to guests at the venue is displayed at the host screen and the order manager screen in the form of a layout corresponding to the venue layout, information associated with each guest being displayed at a location corresponding to the guest
- 20 location in the venue.
4. An interactive order management system according to any one of the preceding claims, wherein said information relating to orders placed by guests is displayed at the order manager screen in the form of a layout corresponding to the venue layout, information associated with each guest being displayed at a location corresponding to the guest
- 25 location in the venue
5. An interactive order management system according to any one of the preceding claims, wherein the host screen includes the ability to allocate a respective order manger to any guest location in the venue and wherein the host screen displays information identifying the respective order manager allocated to each location.

- 5 6. An interactive order management system according to any one of the preceding claims, characterized in that the host screen and order manager screen include means for recording, retrieving, displaying and transmitting information relating to guest names, guest numbers and optionally other guest –specific information for each party of guests at any location within the venue.
7. -- An interactive order management system according to any one of the preceding claims, characterized in that the host screen and order manager screen include means for recording, retrieving, displaying and transmitting information relating to guest arrival times.
- 10 8. An interactive order management system according to any one of the preceding claims, characterized in that the host screen and order manager screen include means for displaying requests from users for assistance or for accounts to be presented.
- 15 9. An interactive order management system according to any one of the preceding claims, characterized in that the host screen and order manager screen include means for allocating and displaying a dedicated location for each party of guests at any location within the venue.
- 20 10. An interactive order management system according to any one of the preceding claims, characterized in that the host screen includes means for recording, retrieving, displaying and transmitting information relating to account payment methods each party of guests at any location within the venue.
11. An interactive order management system according to claim 9, characterized in that each dedicated location corresponds to a table in a restaurant venue.
- 25 12. An interactive order management system according to claim 9, characterized in that each dedicated location corresponds to either a user interactive table in the restaurant or to a conventional restaurant table and that the host screen includes means for distinguishing an interactive table from a conventional table.
13. An interactive order management system according to claim 9, characterized in that each dedicated location corresponds to a hotel room.

14. An interactive order management system according to claim 9, characterized in that each dedicated location corresponds to a game playing position in a gaming venue.
15. An interactive order management system according to any one of claims 2-14,  
characterized in that the user screen provides to the users options in the form of menu  
5 wherein items appearing in the menu are each associated with a hierarchy of sub menus,  
- in which menu items are arranged into categories if like products and wherein user have  
options to customise selected items to personal preferences.
16. An interactive order management system according to claim 15, characterized in that the  
10 menu items appearing on the user screen are formed as a combination of navigation  
video viewable in discrete sections and graphic screen elements.
17. An interactive order management system according to any one of the preceding claims,  
characterized in that the host screen includes means for allocating a respective profile to  
each group at a dedicated location in the restaurant, said profile determining the visual  
form of the menu at the user location.
- 15 18. An interactive order management system according to claim 17, characterized in that  
each menu item in any menu is associated with one or more screen profiles that describe  
the item, the screen profiles being formulated as a combination of video and screen  
graphic items, said screen item profiles being associated with group profiles such that the  
visual form of the menu items experienced by a respective group reflects the group  
20 characteristics as identified in the group profile.
19. An interactive order management system according to any one of claims 2-18,  
characterized in that access to menu by users can be selectively disabled or and that the  
menu can be updated to reflect changing availability of items thereon.
20. An interactive order management system according to any one of claims 2-19,  
25 characterized in that the user screen adapted to carry advertising indicia, wherein said  
advertising indicia are variable and change during operation of the user screen.

21. An interactive order management system according to claim 20, characterized in that the advertising indicia are prompted to change in response to changing user screens and that the advertising indicia relate to menu items under consideration by the user.
22. An interactive order management system according to claim 20, characterized in that the advertising indicia are prompted to change in response to changing user screens.
23. An interactive order management system according to any one of claims 2-22, characterized in that customers select items for purchase from menus appearing on the user screen and can edit and verify any orders before transmitting the order.
24. An interactive order management system according to claim 24, characterized in that an order transmitted by the customer is able to be reviewed and verified by an order manager before being submitted for preparation.
25. An interactive order management system according to claim 24, characterized in that the order manager screen includes information relating to orders transmitted to the order manager and not yet submitted for preparation.
26. An interactive order management system according to claim 24, characterized in that the order manager screen includes information relating to a measure of the time elapsed since all orders from locations under their control order were transmitted to them.
27. An interactive order management system according to claim 24, characterized in that the order manager screen includes information relating to a measure of the time elapsed since all orders from locations under their control order were transmitted by them for preparation.
28. An interactive order management system according to any one of claims 24-27, characterized in that a measure of elapsed time is accompanied by a colour representation.



**Fig 2**



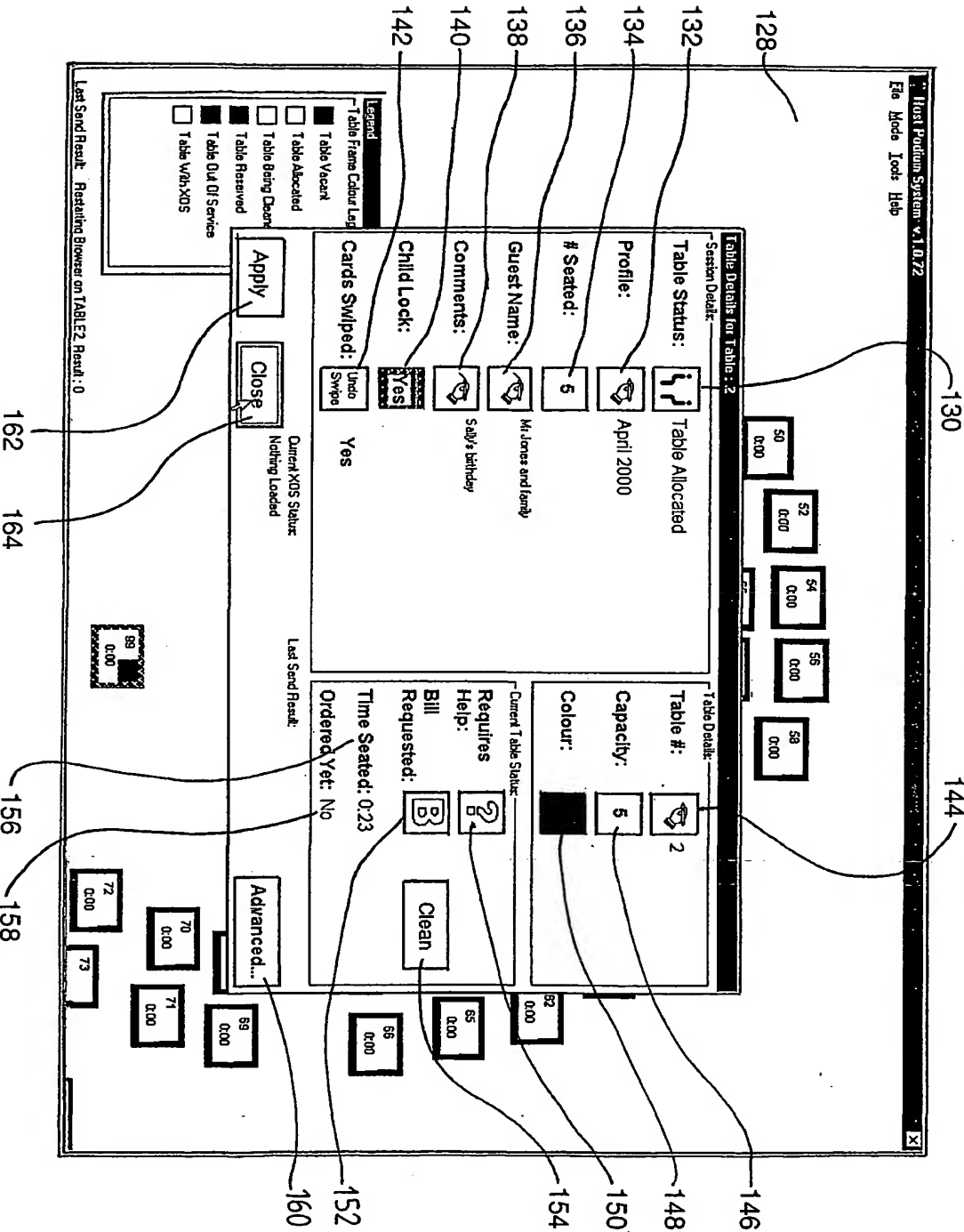


Fig 3

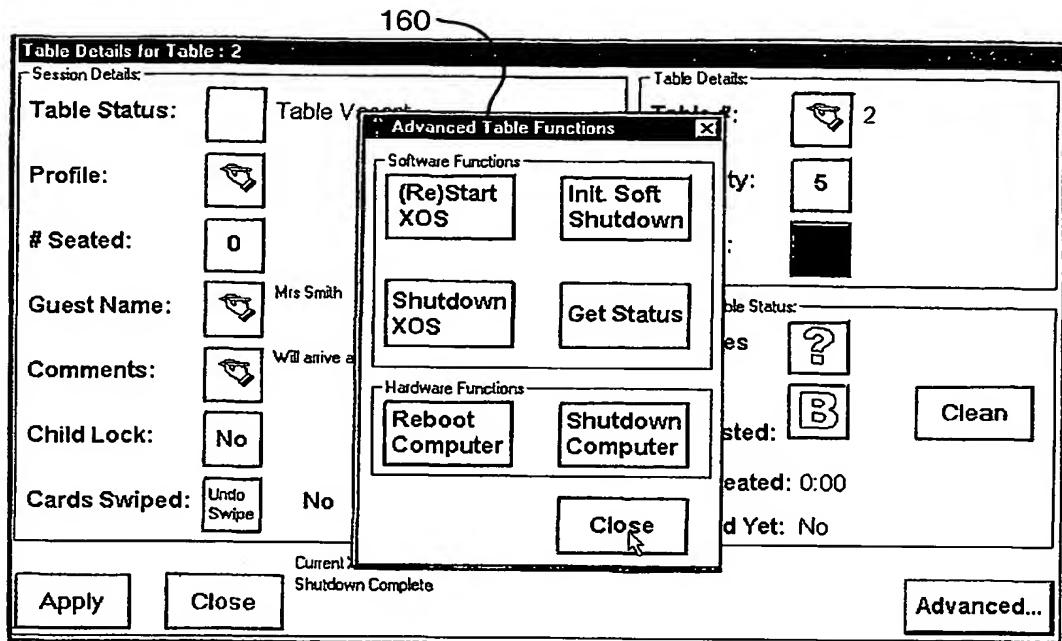


Fig 4

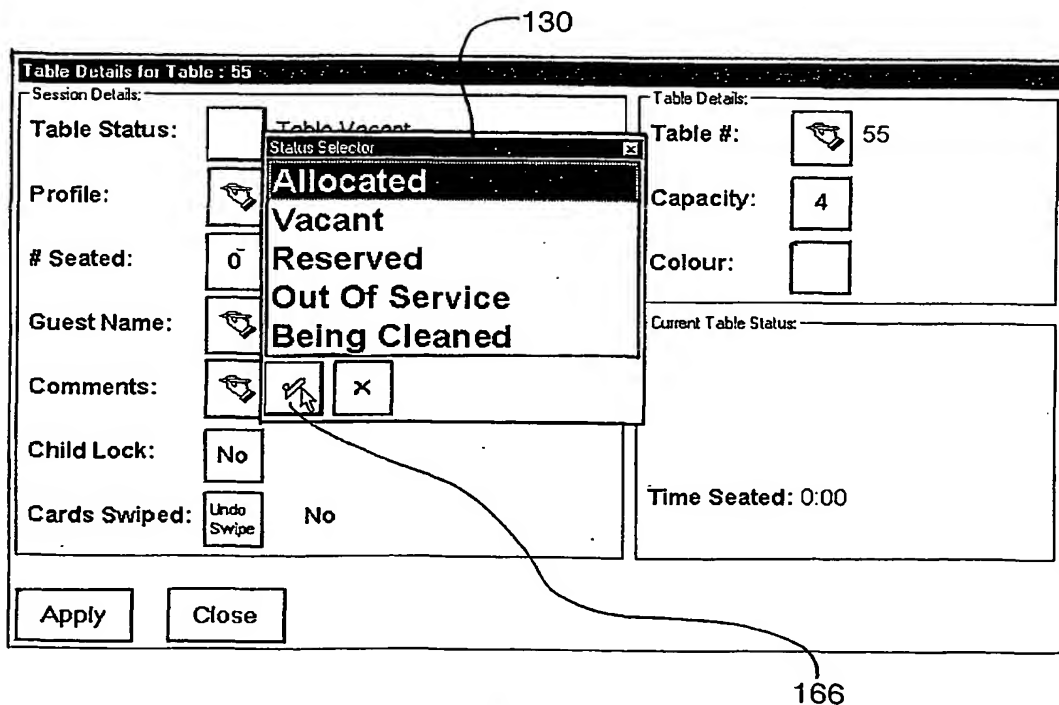


Fig 5

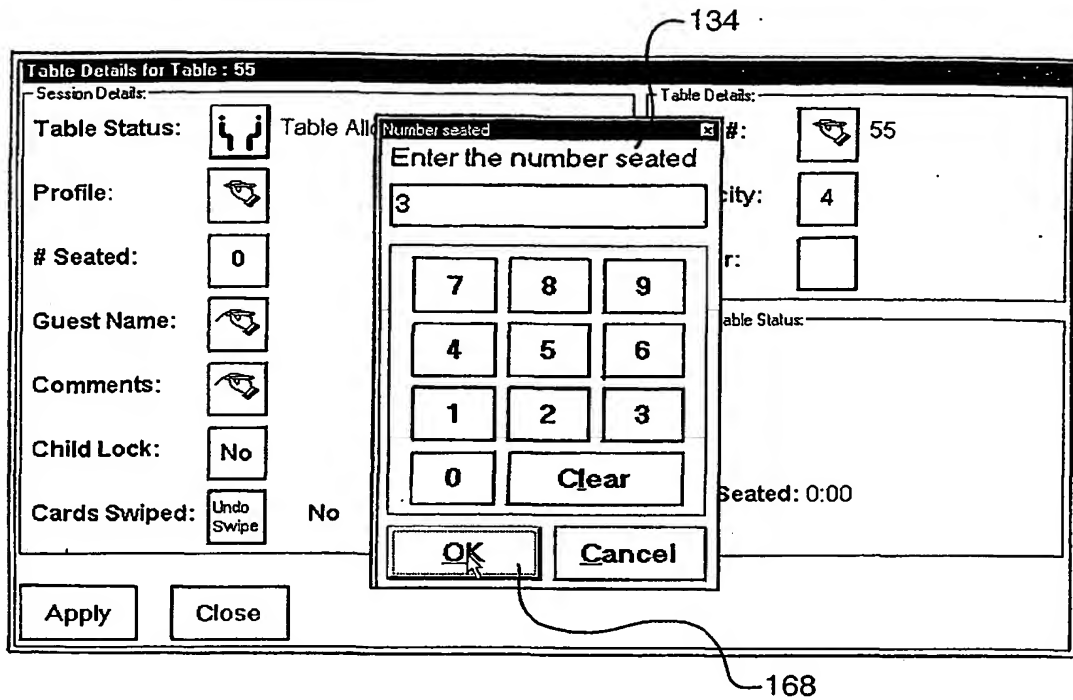


Fig 6

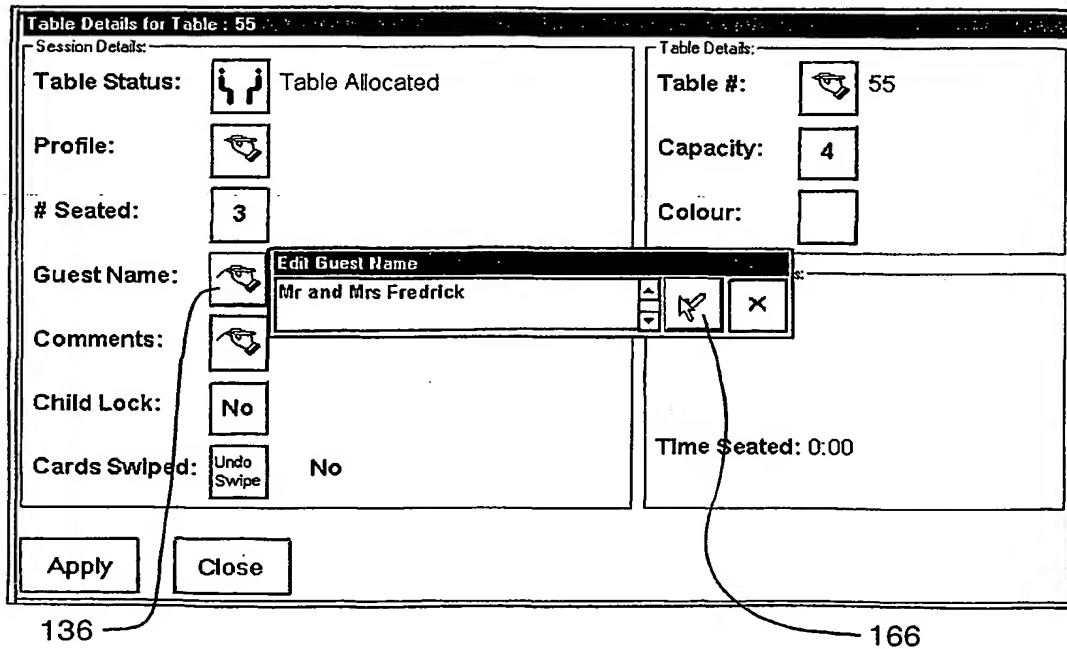




Fig 7


**Table Details for Table : 55**


Session Details:

Table Status:  Table Allocated

Profile: 

# Seated:


Guest Name:  Mr and Mrs Fredrick

Comments:  **Edit Comments**  
Non-Smoking

Child Lock:

Cards Swiped:   No

Table Details:

Table #:  55

Capacity:

Colour:

Current Table Status:


Time Seated: 0:00


138 166

**Fig 8**


**Table Details for Table : 2**


Session Details:

Table Status:  Table Allocated

Profile: 

# Seated:


Guest Name: 

Comments: 

Child Lock:

Cards Swiped:

Table Details:

Table #:  2

Capacity:

Current XDS Status: Shutdown Complete

Last Send Result

Ordered Yet: No

**Profile Selector**  
April 2000

132 166

**Fig 9**

168

**Table Details for Table : 2**

Session Details:

Table Status: Table Allocated

Profile: April 2000

# Seated:

Guest Name:

Comments:

Child Lock: ☒ Yes

Cards Swiped:  No

Table Details:

Table #: 2

Capacity:

Time Seated: 0:09

Ordered Yet: No

Current XOS Status: Initialising XOS

Last Send Result:

**Set to Screen Cleaning Mode ?**

This will temporarily set the XOS to screen cleaning mode.

Are you sure you want to continue ?

**Fig 10**

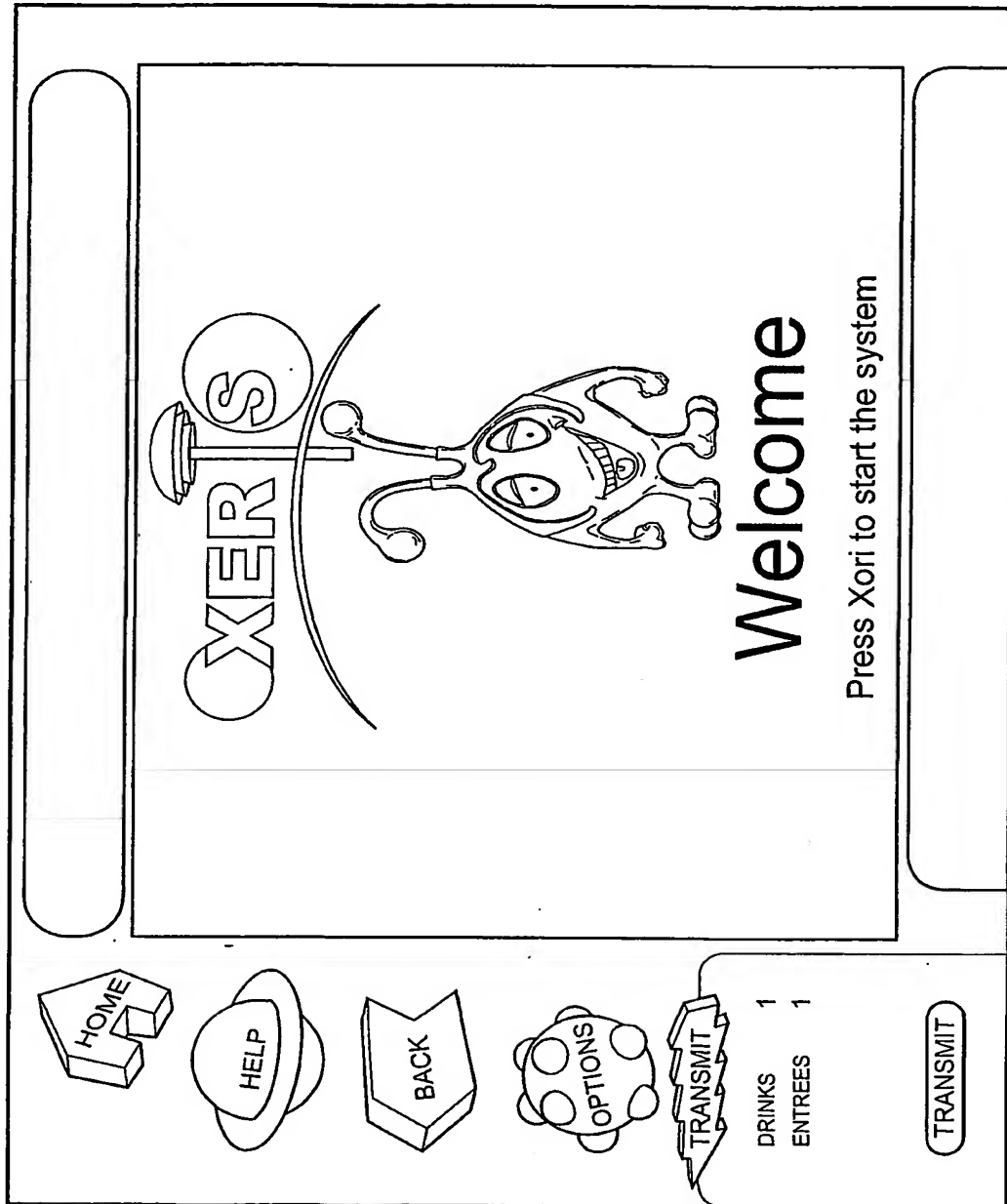
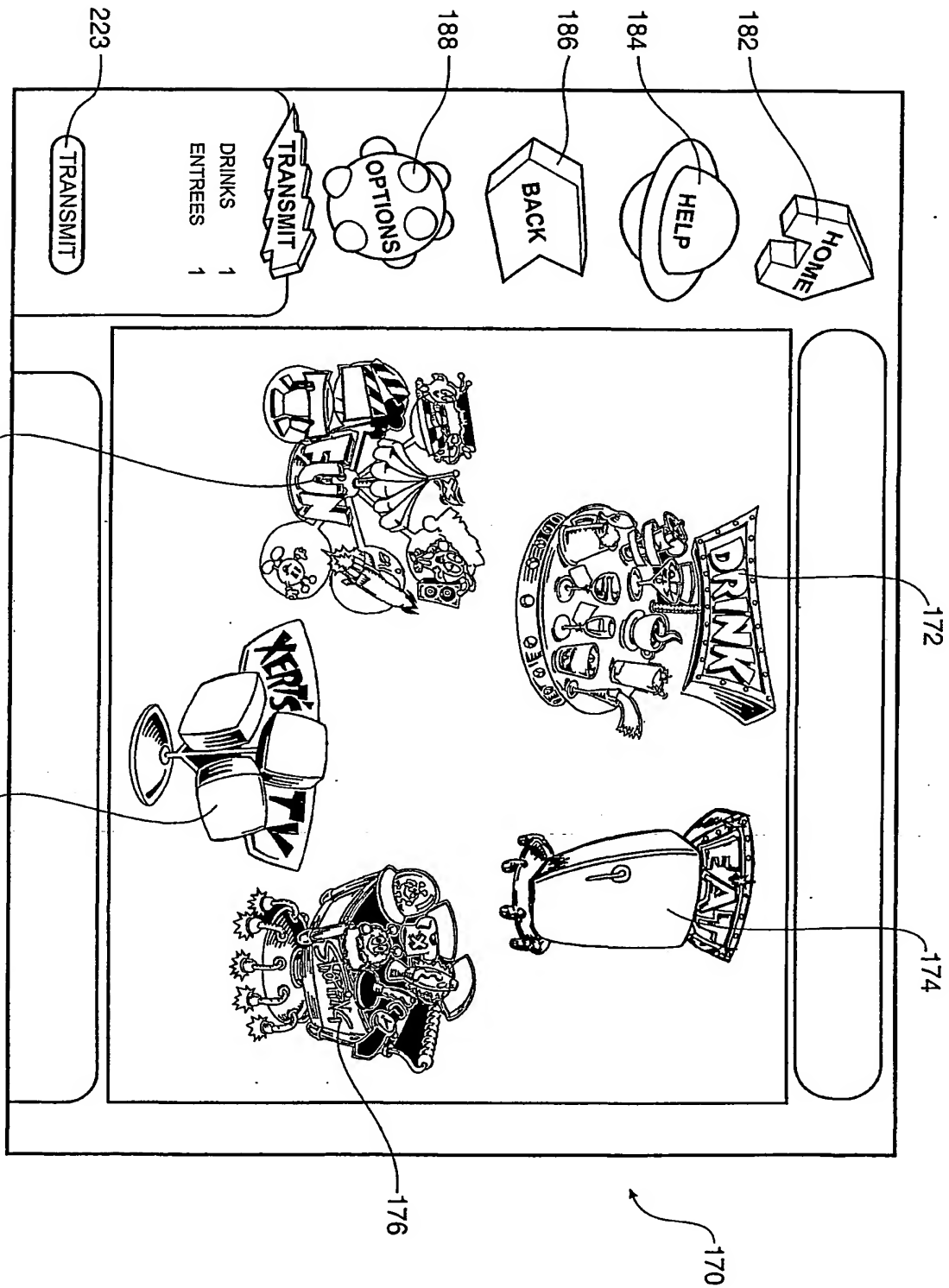


Fig 11



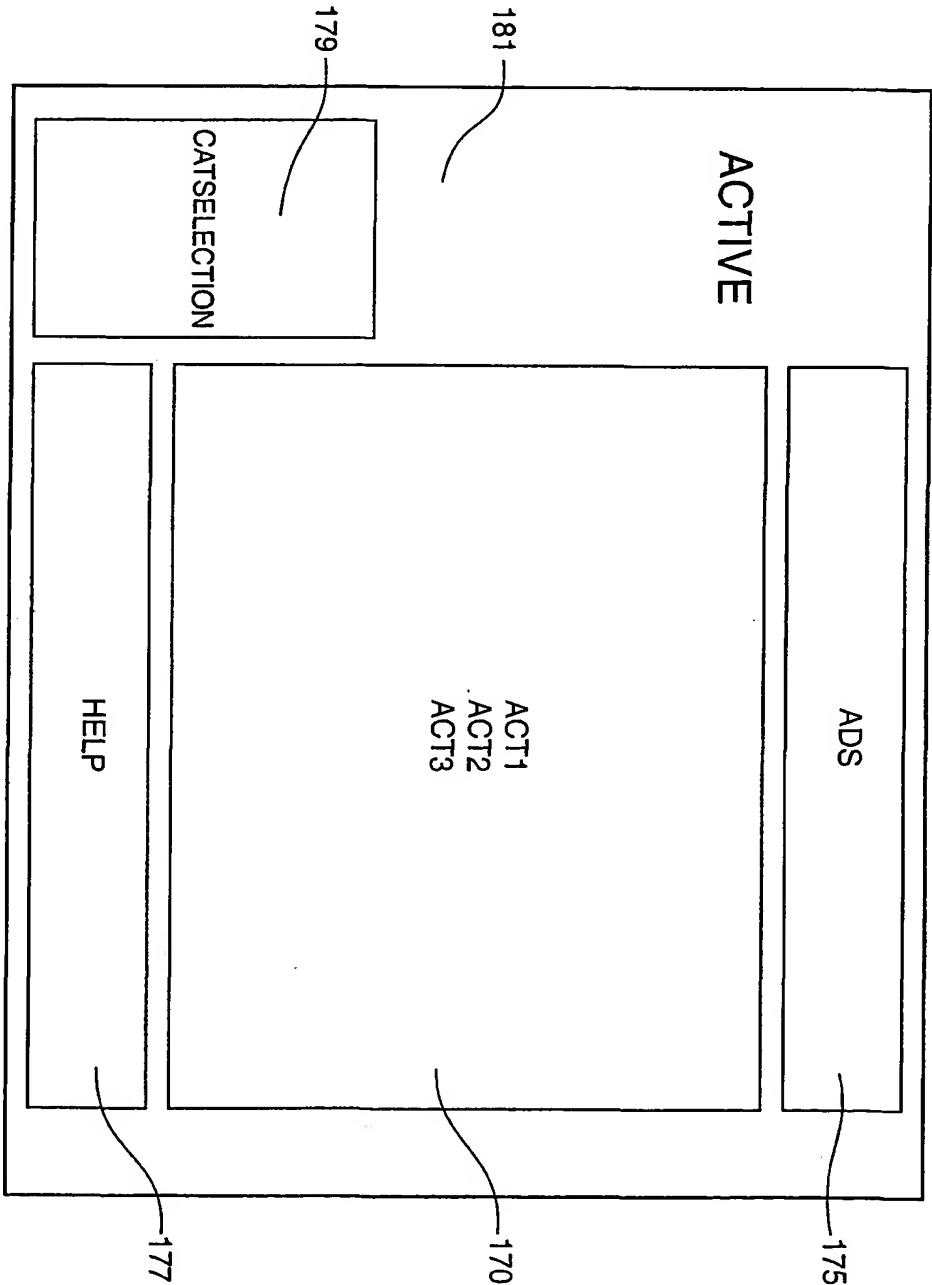


Fig 13



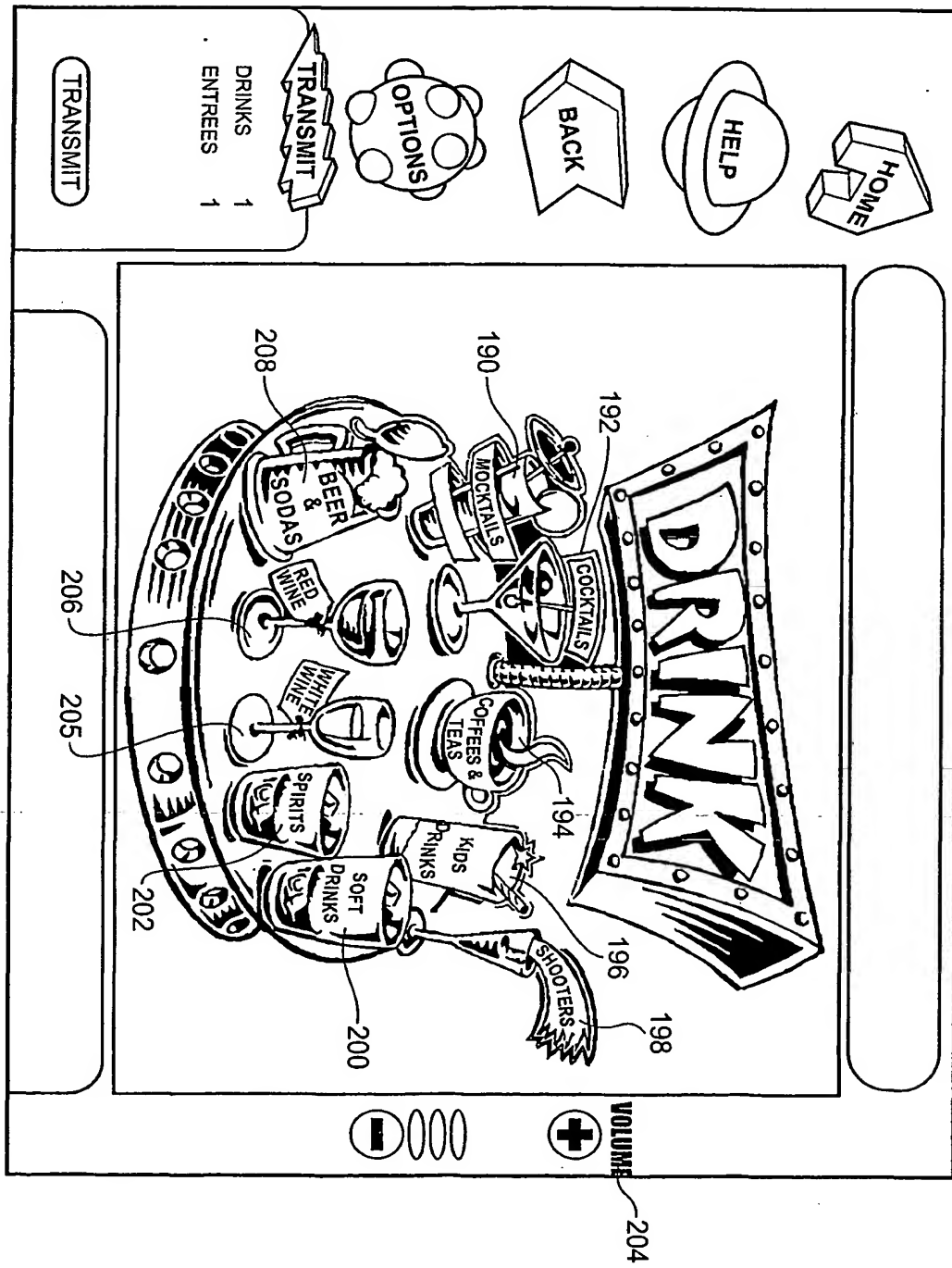
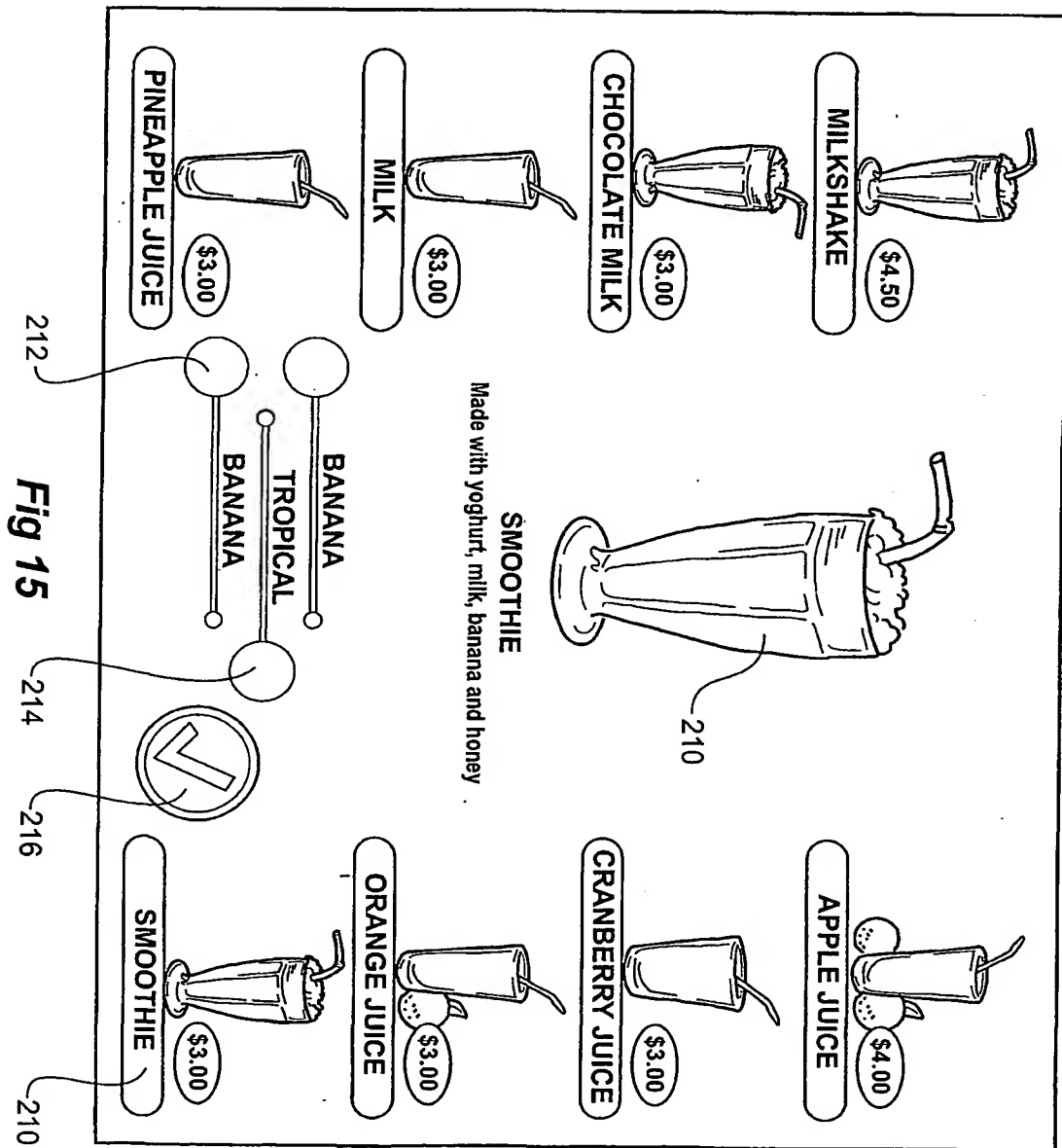


Fig 14



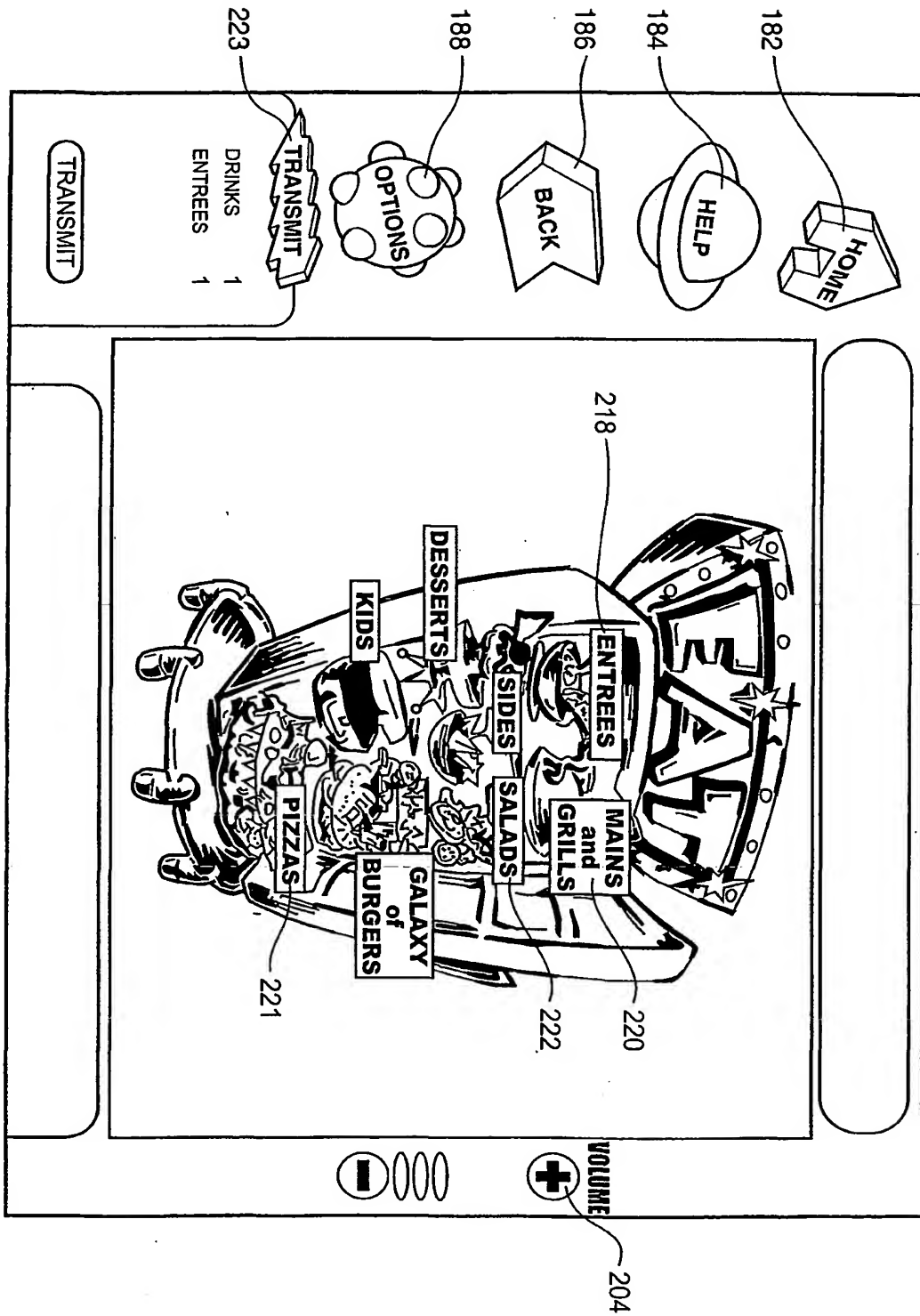


Fig 16

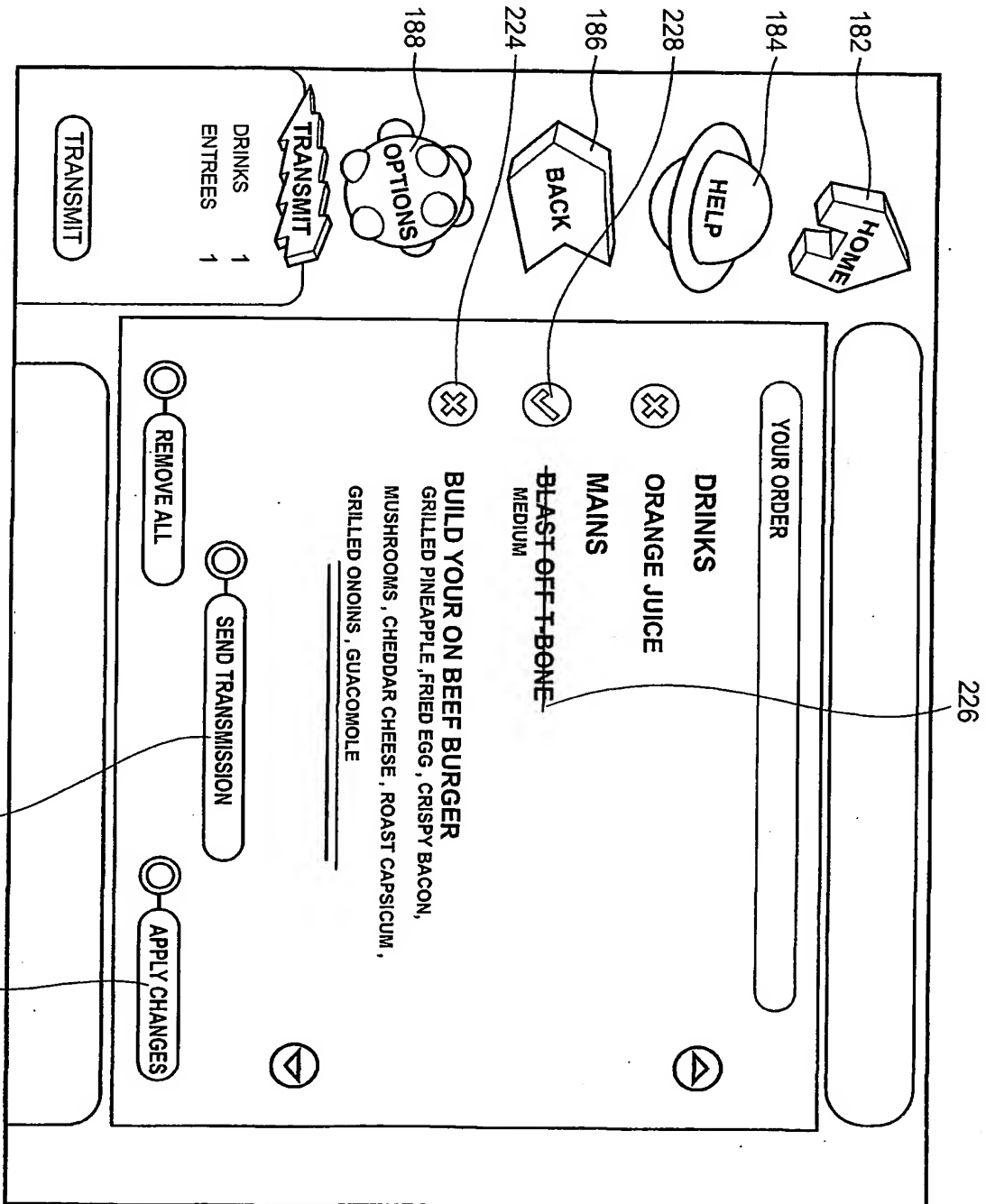


Fig 17

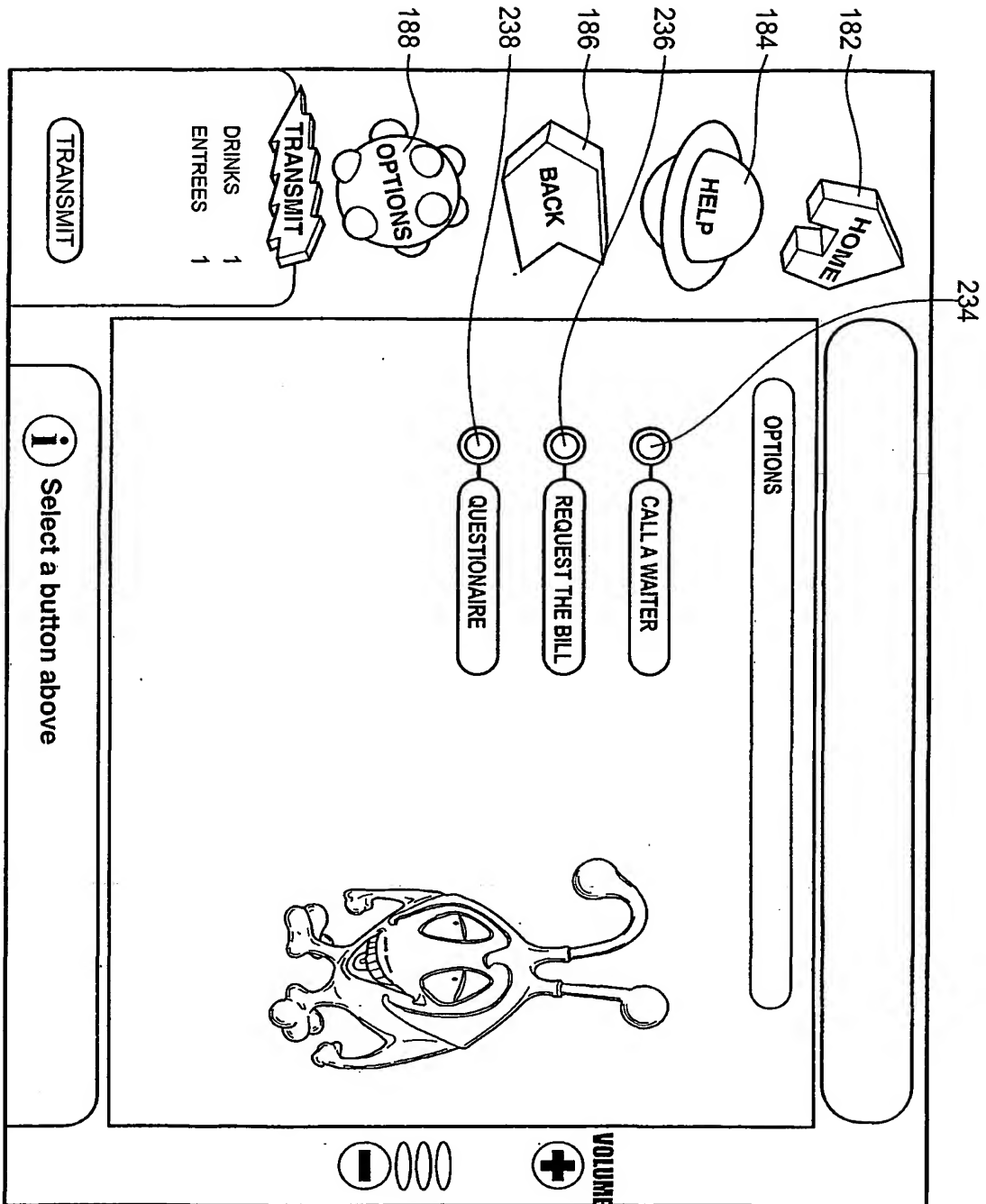


Fig 18

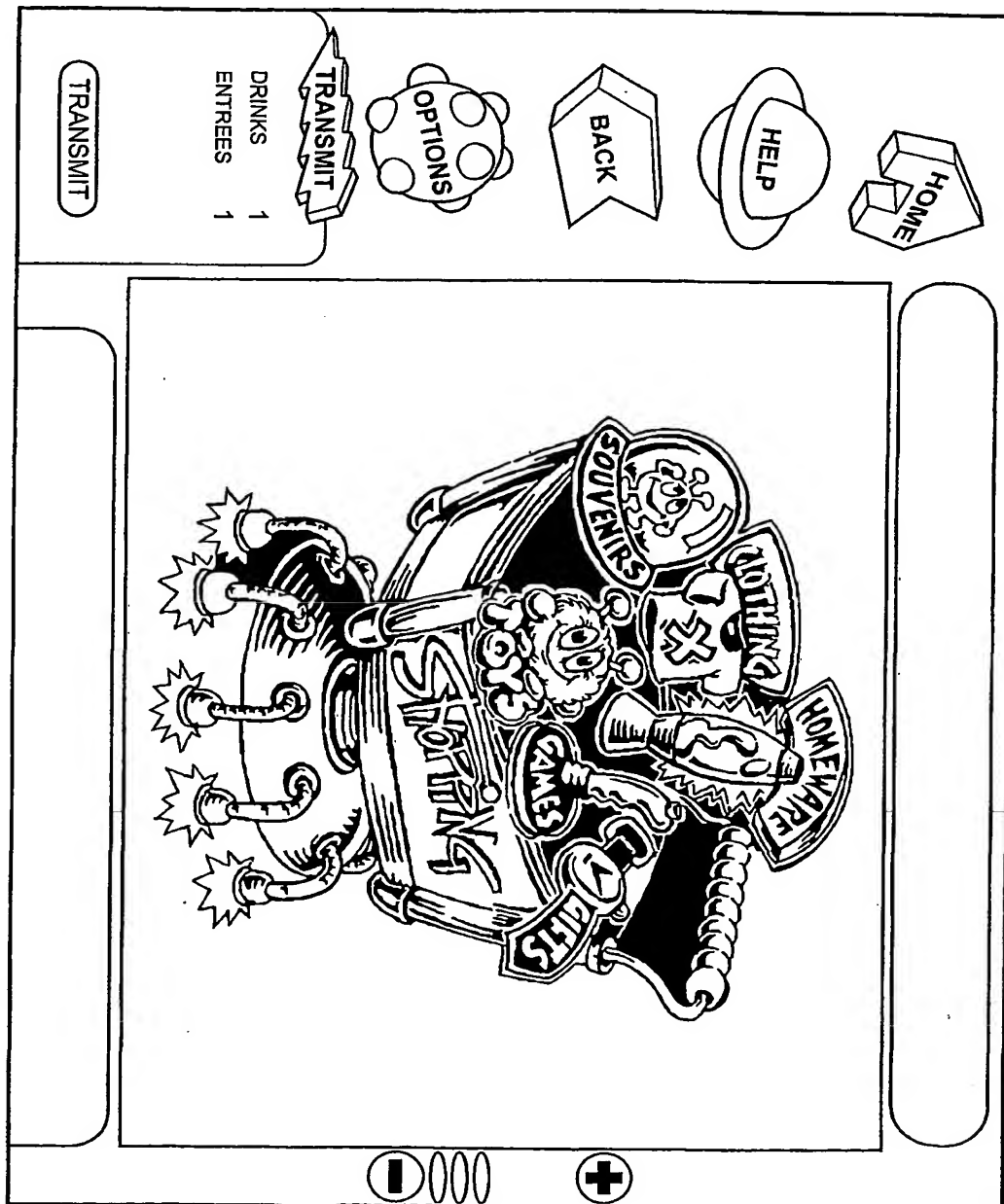


Fig 19

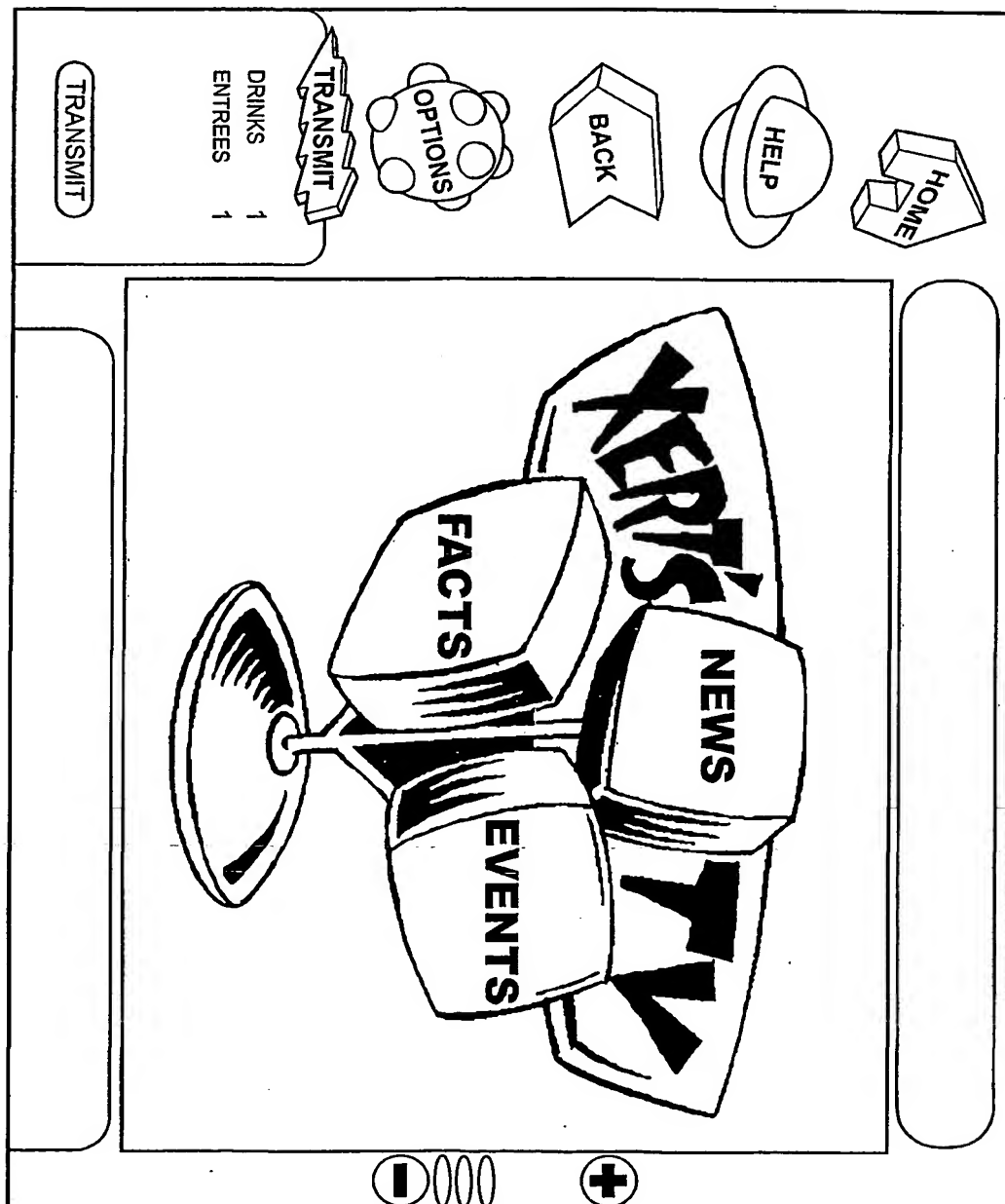
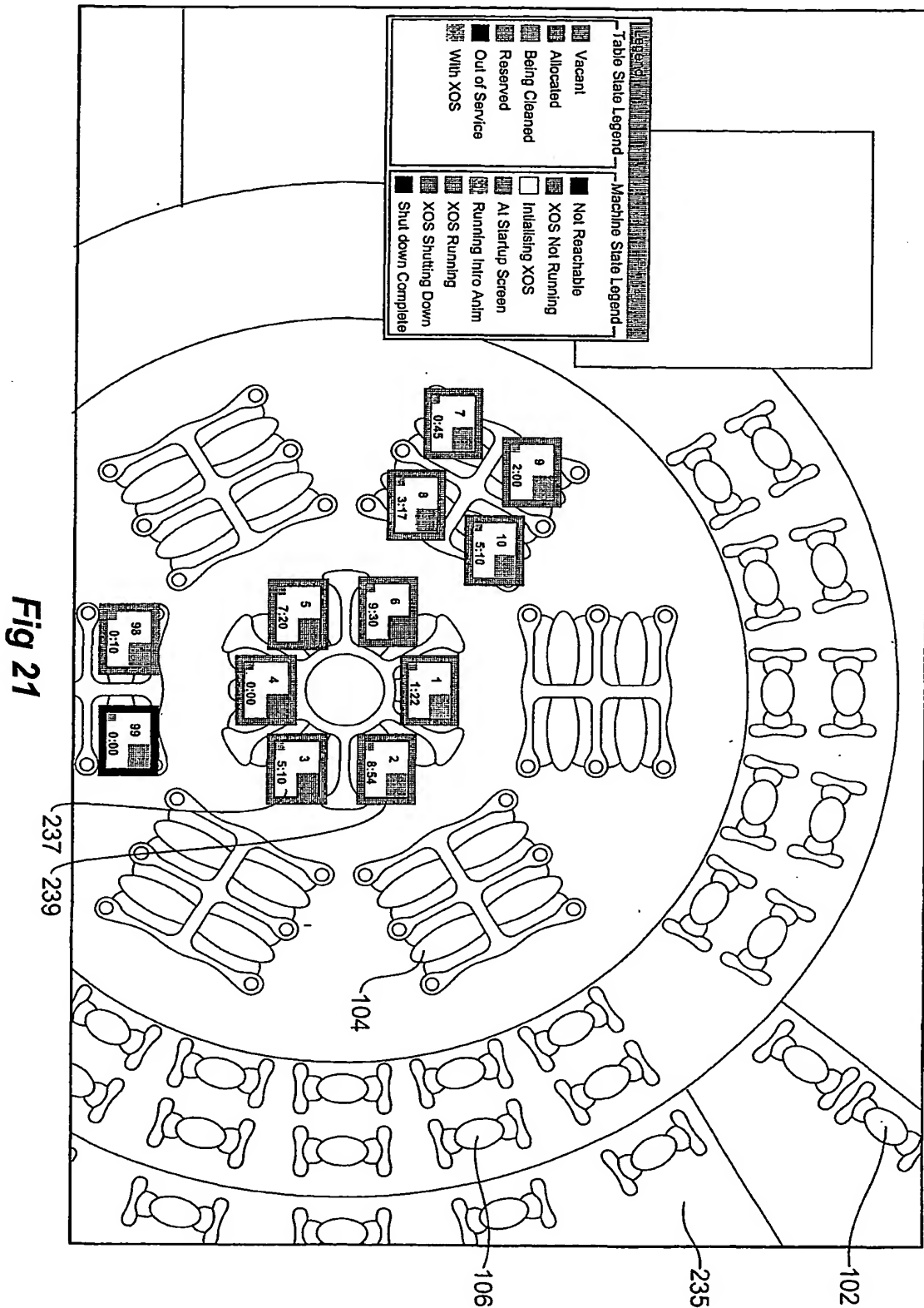


Fig 20







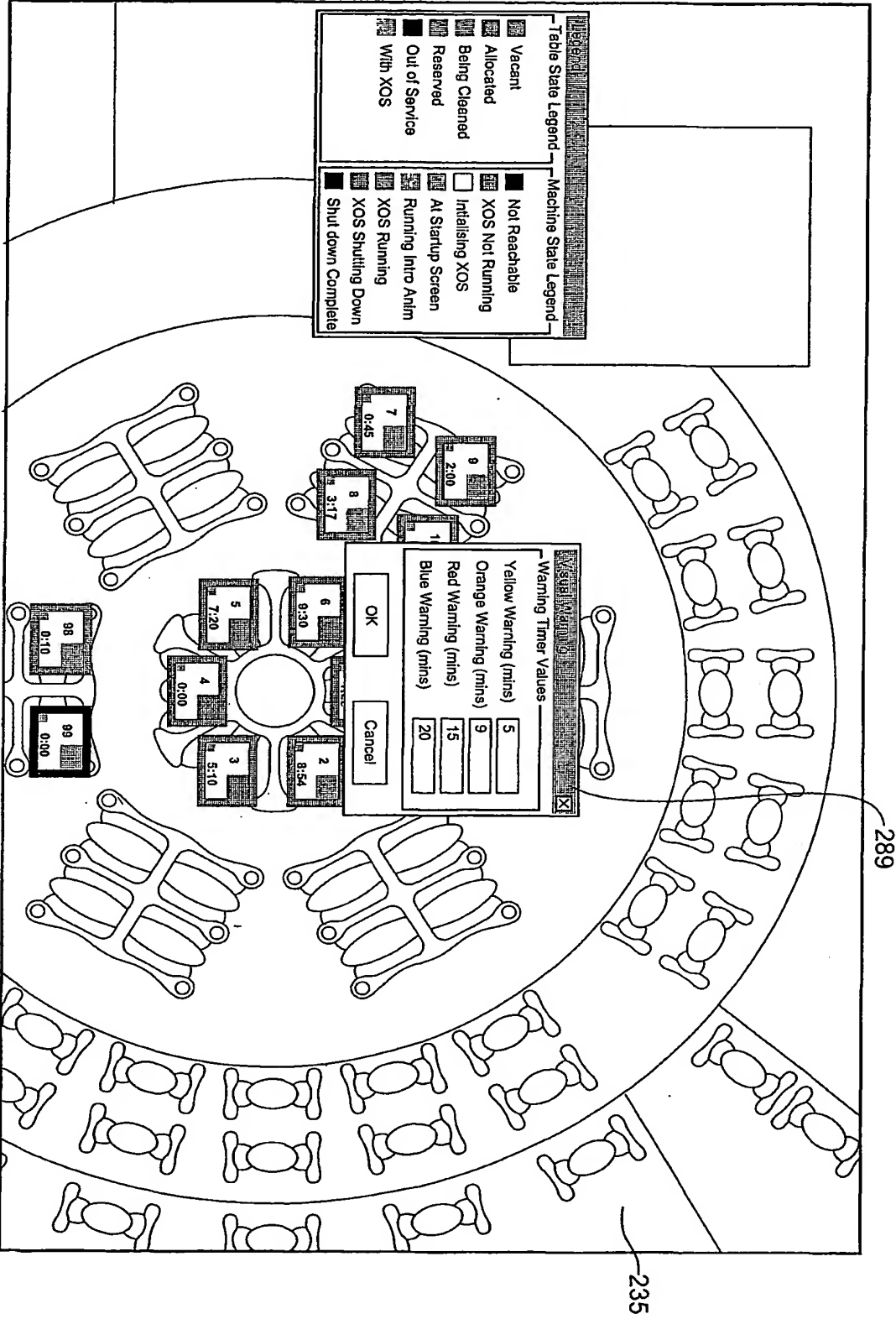
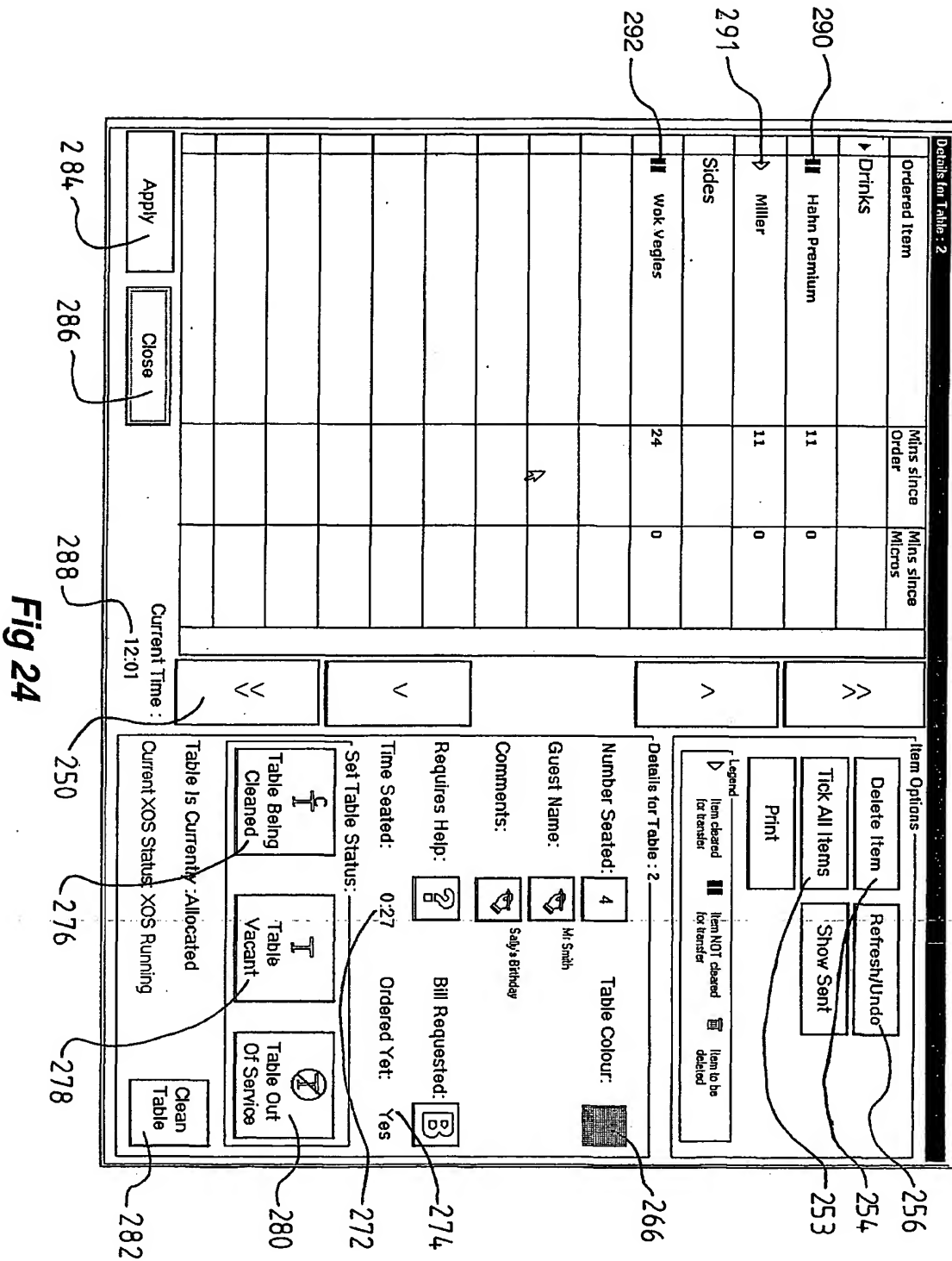
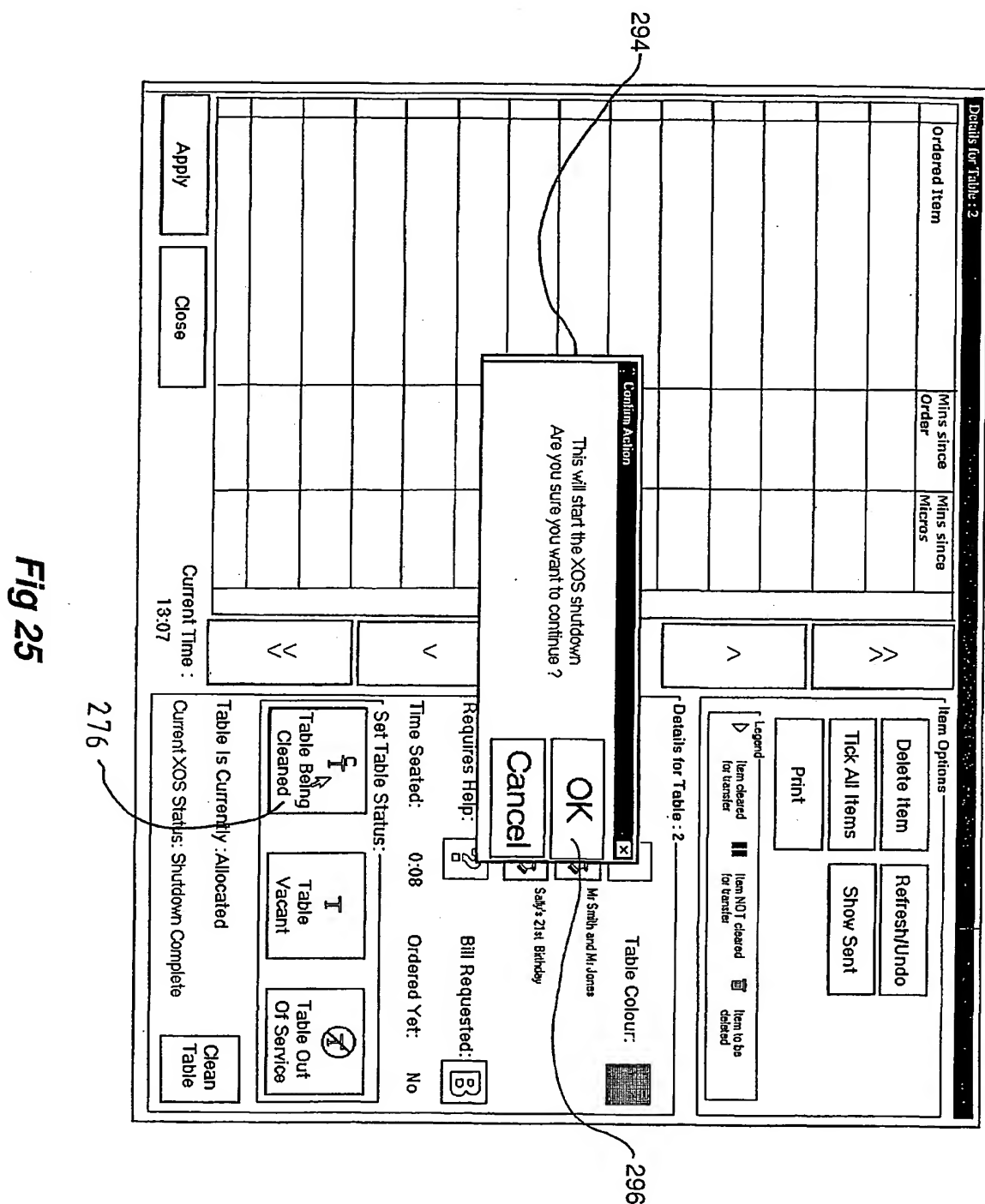


Fig 23





298

**Details for Table : 2**

Ordered Item	Minus since Order	Minus since Micross
Salads		
Xertian Salad	13.	0
side Dressing		

Number seated

Enter the number seated

4

Item Options

Delete Item

Tick All Items

Print

Refresh/Undo

Show Sent

Legend

Item cleared for transfer

Item NOT cleared for transfer

Item to be deleted

Table Colour:  

Number Seated: 4

Guest Name: Mr Smith

Comments: Sally's Birthday

Requires Help: ?

Bill Requested: B

Time Seated: 1:01

Ordered Yet: Yes

Current Table Status: f

Table Is Currently: Allocated

Current Time : 12:35

Current XOS Status: XOS Running

Table Being Cleaned

Table Vacant

Table Out Of Service

Clean Table

Apply

Close

OK

Cancel

260

Fig 26

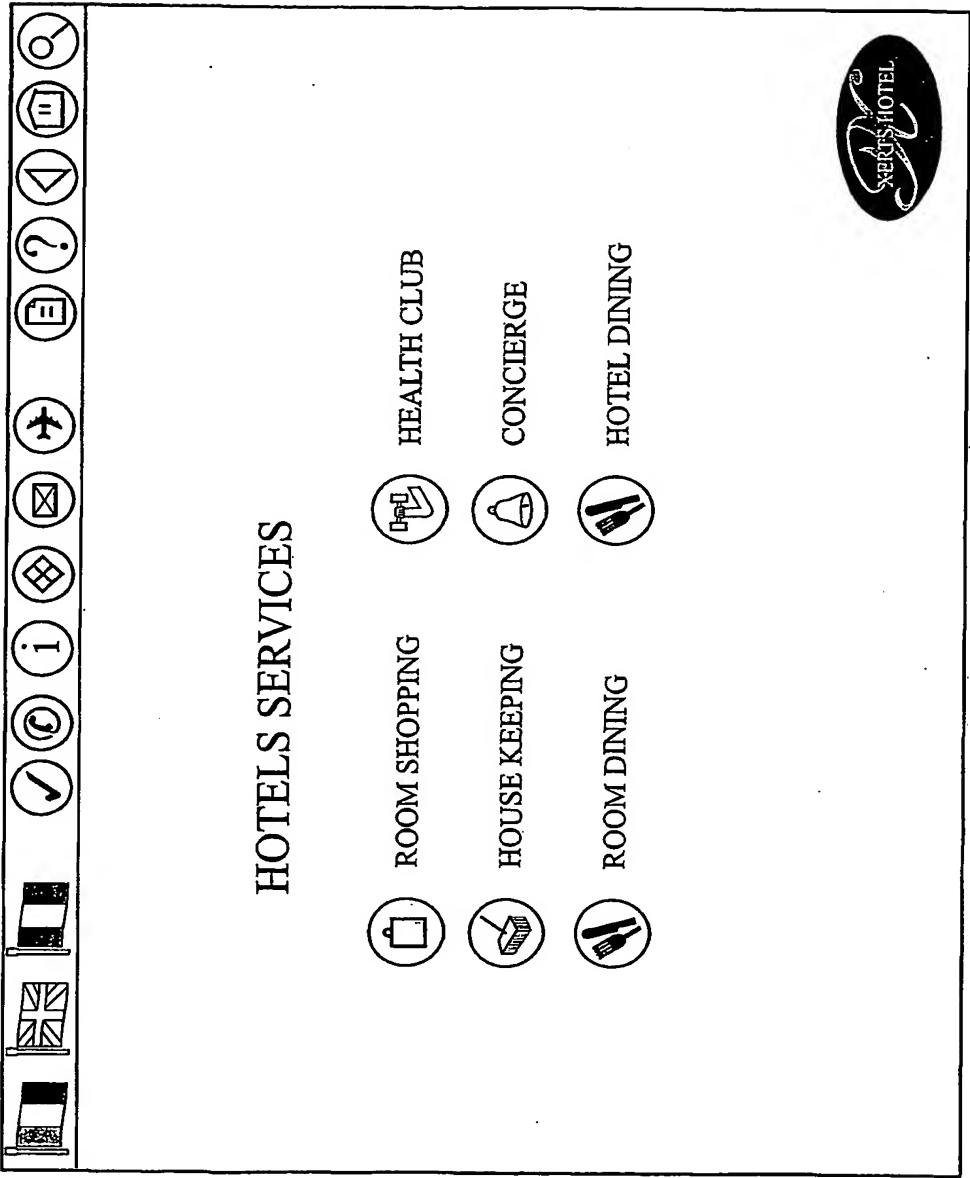


Fig 28

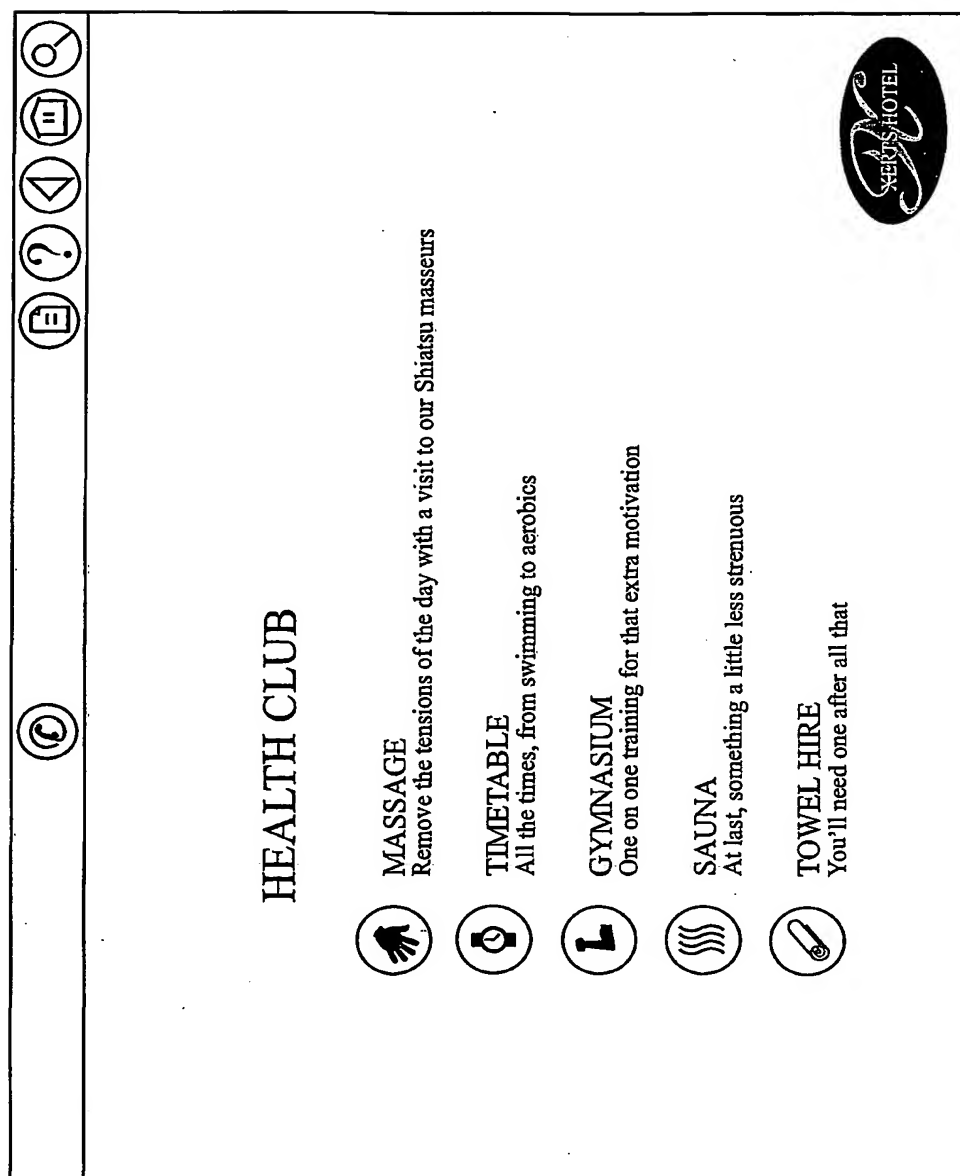










Fig 29








BOOKING CONFIRMATION

▼ NAME

▼ ROOM NUMBER


PLEASE SELECT

CARD NUMBER

▼ EXPIRY DATE

▼ OTHER




☒ CHARGE TO MY ROOM






☐ CHARGE TO MY CARD


BOOK

Fig 30



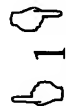












### CUSTOMER REPORT SUMMARY

NAME	ROOM	RATE	COST
23/8/00-24/8/00	Harbour Suite	Rack	\$330.00AUD
24/8/00-25/8/00	Harbour Suite	Rack	\$330.00AUD
24/8/00-25/8/00	Mini Bar - Toblerone		\$15.00AUD
24/8/00	Mini Bar - Mineral Water		\$127.00AUD
25/8/00	Cobber Kurz Cafe Restaurant		\$100.00AUD
	Xerts Tourist Ticket - Family Pass		
ABOUT COSTS			\$902.00 AUD



ABOUT TOWN

Fig 31

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU01/01069

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>														
Int. Cl. <sup>7</sup> : G06F 17/60														
According to International Patent Classification (IPC) or to both national classification and IPC														
<b>B. FIELDS SEARCHED</b>														
Minimum documentation searched (classification system followed by classification symbols) IPC G06F														
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched AU:IPC AS ABOVE														
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT, USPTO														
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>														
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.												
P,A	WO 0154025A, ONEIDA INDIAN NATION, 26 July 2001													
A	US 5128862A, MUELLER, 7 July 1992													
A	US 5845263A, CAMAISA et al, 1 December 1998													
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex														
<table border="0"> <tr> <td>* Special categories of cited documents:</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td></td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family	"O" document referring to an oral disclosure, use, exhibition or other means		"P" document published prior to the international filing date but later than the priority date claimed	
* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention													
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone													
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art													
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family													
"O" document referring to an oral disclosure, use, exhibition or other means														
"P" document published prior to the international filing date but later than the priority date claimed														
Date of the actual completion of the international search 16 October 2001		Date of mailing of the international search report 23 OCT 2001												
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  S KAUL Telephone No : (02) 6283 2182												

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU01/01069

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6087927A, BATTISTINI et al, 11 July 2000	

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/AU01/01069**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
US	5128862	US	5235509
US	5845263	US	5353219
US	6087927	NONE	
US	0154025	US	5907275
WO	0154025	NONE	
END OF ANNEX			